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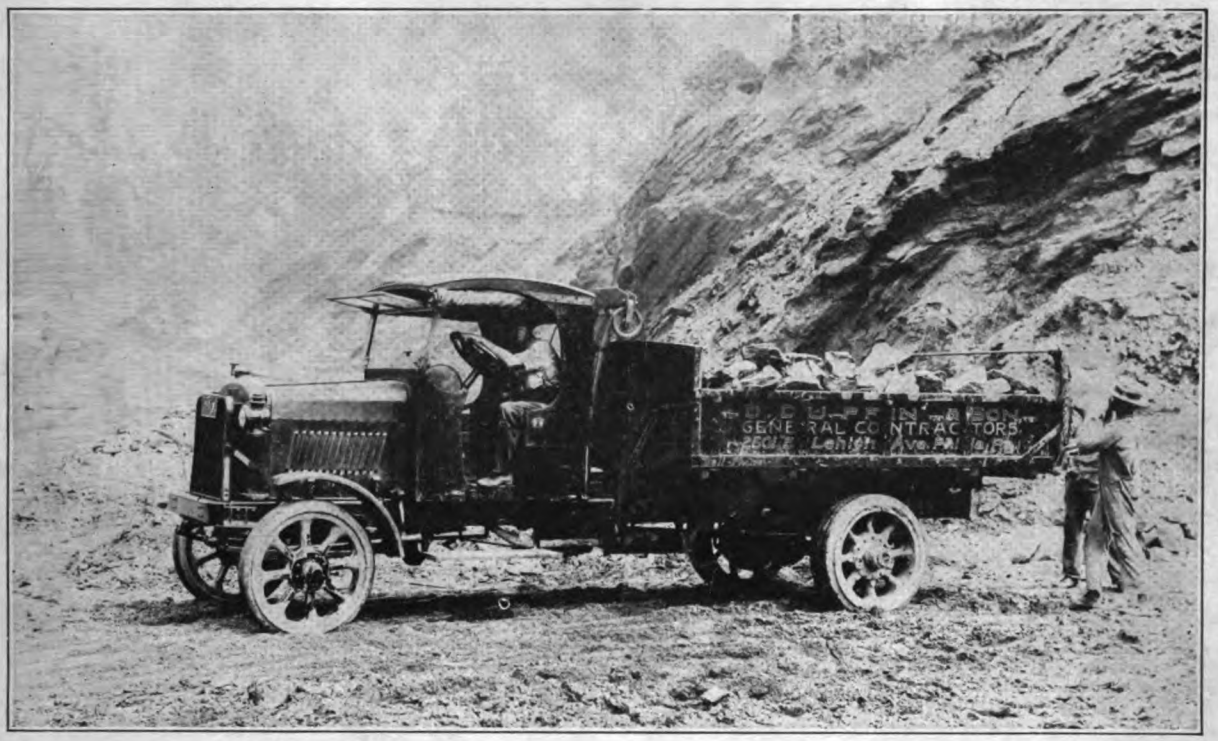
Motor West

THE MOTORING AUTHORITY OF THE PACIFIC COAST



DEALERS!

There are big opportunities in merchandising Denby trucks; maybe there's some open territory in your section. A letter to the factory or the Western Office will post you.

DENBY MOTOR TRUCKS

DENBY TRUCKS have won for themselves a a reputation for doing easily the tasks that have proved impossible to other trucks,—of delivering transportation dependably, and at a cost that makes operation profitable, under conditions that were seemingly prohibitive.

The same features of design and of construction that give them this greater ability, insure a very long life and low maintenance under ordinary conditions of service.

Any Denby dealer will gladly show you the reasons for the better service Denby trucks give.

Denby Motor Truck Company—Detroit

Western Office, 725 Rialto Building **San Francisco**

(41)

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TO DATE, the number of dealers carrying stocks of United States Tires is 98 per cent. greater than at this time two years ago.

One out of every four reputable tire dealers in this country is now a United States Tire Sales and Service Depot Dealer.

This—in spite of the fact that there are over 300 different makes of tires.

The reason is—

Dealers know tires. Also—they know the make of tires that most motorists want.

United States Tires
are Good Tires

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Your Ford doesn't have to rattle and jar—

Ford cars are made of good material and assembled better than most cars. They don't have to rattle, shake and jar every time you put on the brake—lurch or jerk when you start or reverse.

Rattling and shaking is due to the linings used for stopping, starting and reversing. These plain linings get a hard slick surface from friction and oil. When the pedals are pressed they grab and slip repeatedly. This grabbing and slipping causes all the chattering—it loosens the whole car and makes it rattle.

Advance CORK INSERT *Transmission Lining for Fords*

take hold with a smooth, sure grip. Oil doesn't effect them. They never get hard or slick. They last three times as long as any other lining—keep your Ford running smoothly—save it from rattling to pieces.

Nothing but Advance Cork Insert Linings will keep your Ford from shaking to pieces and rattling from radiator to taillight.

Ask for Advance Cork Insert Linings. Every garage or repair man has them or can get them, for every wholesale house carries them. If you can't get them quickly, remit $3.00 and we'll supply them ready to put on.

Dealers—Over a million sets of Advance Cork Insert have been sold—quality, reputation and advertising make them a real money maker for you. Get them from your jobber. Every jobber handles them, or write direct for discounts.

$3.00 Per Set
$3.25 Rockies West
$4.50 Canadian

Valuable Book FREE

It tells the story of the FORD BRAKE. Send for it today. Advance Cork Insert Linings are made exclusively under patents controlled by

Advance Automobile Accessories Corp.
Dept. J18 - 56 East Randolph St., Chicago

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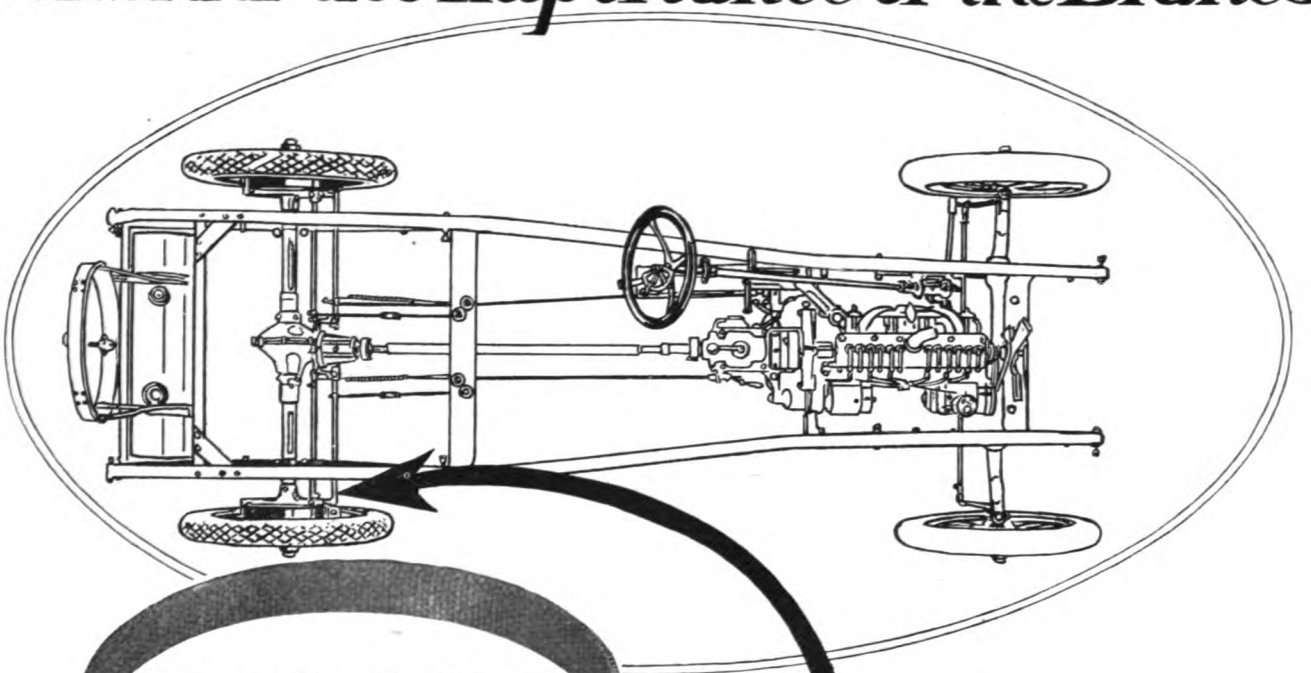
Consider the Importance of the Brakes



RUSCO Brake Lining and Clutch Facings

The engine, the transmission, the chassis are all important—but what's more important than the brakes? If lined with Rusco they instantly respond to every demand.

Why not equip your cars with Rusco—the nationally advertised brake lining that more and more car owners are specifying. They are guaranteed for one year.

Other good selling Rusco products in which quality is pre-eminent are: Fabric Fan Belts, Tire Straps, Top Straps, Hood and Radiator Lacings and Transmission Lining for Ford cars.

Write for our valuable Rusco Automatic Products Book.

The Russell Manufacturing Co.

New York City, 349 Broadway
Detroit, 18 Alexandrine Ave., East

Home Offices and Factories:
515 Russell Ave., Middletown, Conn.

Chicago, 1438 Michigan Ave.
Atlanta, 60 So. Forsyth St.

Salt Lake City, Utah
Denver, Col.

Western Distributors
JOHN T. ROWNTREE, Inc.,
Los Angeles, Cal.

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38 Factory Buildings | Established 1830 | 25,000 Shuttles

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Economy

THE *NEW* TIRE COVER

THIS is the cover your customers have long sought in vain—The Standardized Tire Cover. It is the only cover made that fits every make of tire in any tread—the only cover that can be used with any style of rim or carrier—the only cover that is suitable for both wood and wire wheels.

You do not have to tie up your capital in a big stock of "sizes" and "styles"—the five standard sizes of the Economy Tire Cover meet every demand and requirement. The Economy is the economical cover for your customers — the profitable cover for you.

If your jobber cannot supply you, write direct for folder giving complete information.

The Economy Tire Cover Co.

1319 Margo Street LOS ANGELES, CAL.

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Five automobiles stuck here—near Fairbury—the day Patriot Trucks came through on high. It's gumbo. Most of the distance was through such roads; much of it, in addition, through a driving rainstorm.

350 Miles of Proof That Patriot Trucks Are Master of Every Road and Every Load

During June three Patriot Trucks—one 2½ Ton and two 1½ Ton—loaded with binder engines for the harvest fields of Southern Kansas, left the Patriot factory at Lincoln, Nebraska, for a run to Wellington, Kansas, a distance of 350 miles.

The route lay through Fairbury, Nebraska; Salina, McPherson, Newton and Wichita, Kansas. Over most of this territory there had been much rain for several weeks, and some of the roads had practically no bottom. In fact, the drivers purposely picked the very muddiest roads of the season, as the Wellington distributors, to whom the trucks were sold, wanted to know just what they could expect of Patriot Trucks on country roads at their worst.

Over 200 miles of the trip was made in the rain, the trucks sinking hub deep in many of the roads, but the entire trip of 350 miles was made in two days, each truck going through on its own power, without having to be pulled out of the mud a single time.

We receive similar reports from all over the country where Patriot Trucks are in use, and our distribution has been built up so rapidly because of such unusual performance. Write what territory you would like.

HEBB MOTORS CO.

Manufacturers

1387 P Street Lincoln, Nebraska

PATRIOT

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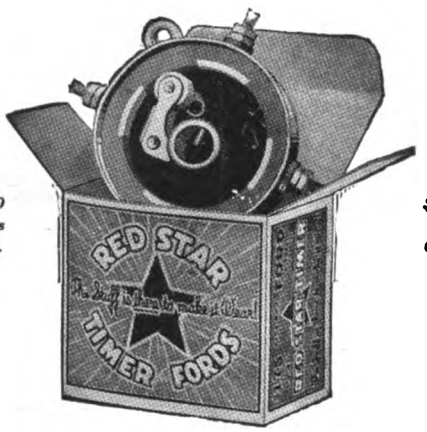
Is Your FORD hard to start NOW!

Nearly 200,000 Red Star Timers are in daily use.



$2.00 in U. S. in Canada $2.75

Red Star Timer

FOR FORD CARS·TRUCKS AND TRACTORS

on your Ford will make it easy to start — do away with the jerk and jump when you speed it up—allow it to idle slowly — pull more evenly and give your motor more pep and power.

The Red Star Timer will do this because it is the best timer ever made for Fords. In every part you will find the best material and workmanship.

The special Red Star roller bearing roller always rolls —doesn't wear flat or angular. The race stays smooth throughout the Red Star's long life.

There's twice as much wear in a Red Star Timer. Always ask for a Red Star—the name is on the box and a Red Star stamped on the shell.

Dealers: — Ford owners are demanding Red Stars. Quality, advertising and reputation are assurance that Red Stars mean a lively and profitable trade for you. Ask for window displays and counter signs. They help build sales. Get in touch with us today for discounts.

McCoy Motor Supply Company

Los Angeles **San Francisco**

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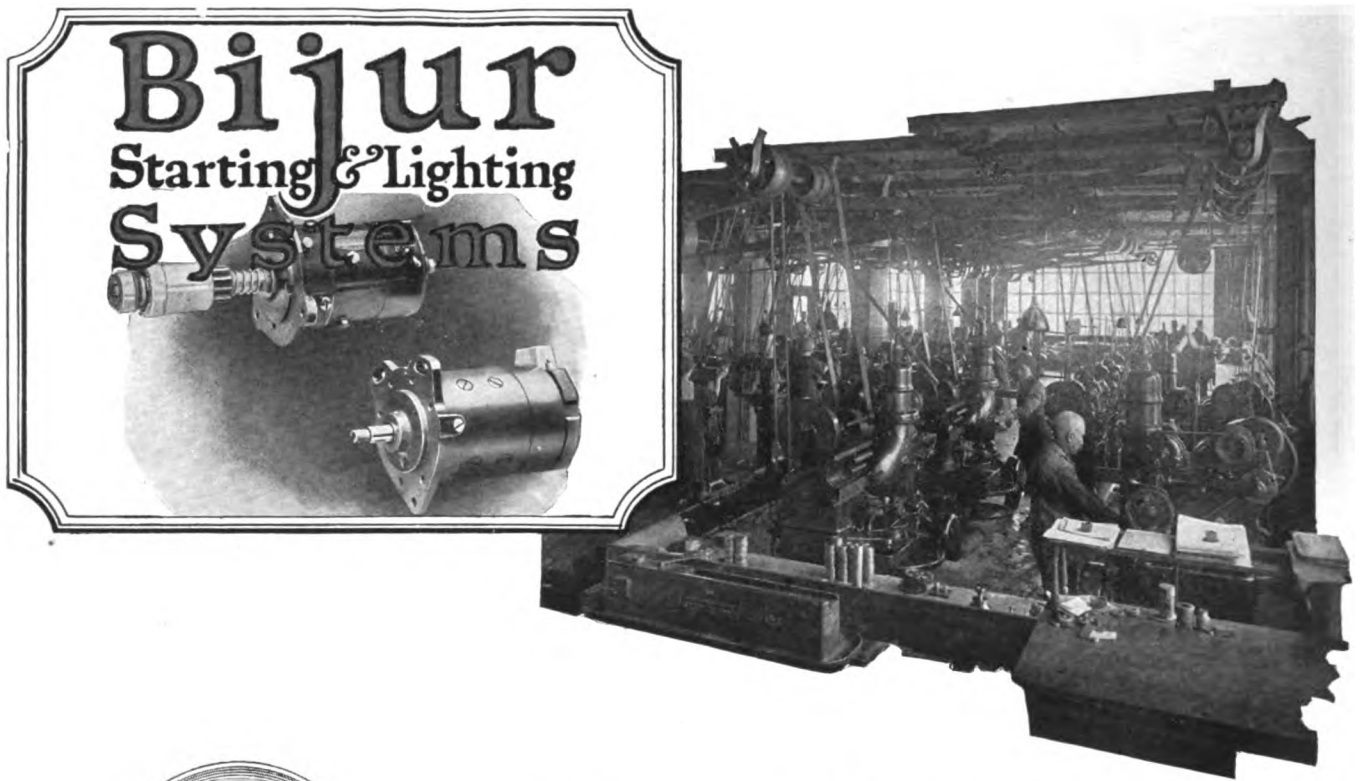
Bijur Starting & Lighting Systems



The Bijur Starting and Lighting System is in Service on

Passenger Cars
Motor Trucks
Motor Boats
Seaplanes
Dirigible Balloons
Tanks

How Bijur Quality Is Maintained

THE Bijur plant is a **complete** plant.

In it is made every part that goes into the construction of Bijur Starting and Lighting Systems.

There is no other way to insure the Bijur quality that won the support of Government engineers—the quality that resulted in the adoption of Bijur Equipment for Liberty Motors—

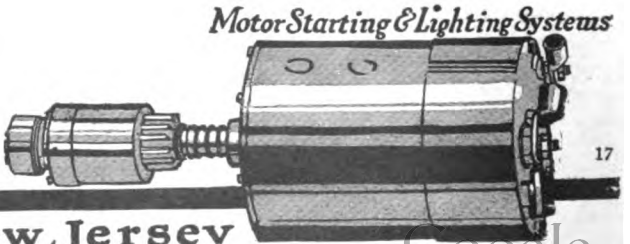
The same quality that marks the starting systems of Packard, Winton, Marmon, Apperson, Peugeot and other cars of the finer class.

All ten stories of the big Hoboken plant are devoted to Bijur manufacturing—exclusively.

This means assurance of a proper Bijur standard—and deliveries according to promise.

Bijur Motor Appliance Company

Motor Starting & Lighting Systems



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Hoboken & & New Jersey

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THE greater beauty and smartness which Hayes Wire Wheels give to any car are almost universally recognized.

But their superior strength over other types is not so widely known.

You have probably noticed that racing cars are all equipped with wire wheels nowadays.

Drivers like Oldfield, DePalma, Mulford and Rickenbacker, insist on wire wheels.

Because most wheel breakages come from skidding, or thrust blows.

In such circumstances, Hayes Wire Wheels have nearly twice the strength of old-fashioned wheels.

You may prefer Hayes Wire Wheels for their added style, but you should not overlook their greater safety.

A dozen spokes, or more, can be removed from a Hayes Wire Wheel without interfering with its functions.

The fact that wire wheels are much more quickly and easily changed in case of tire trouble is also an important factor.

Racing men lack your appreciation of the *beauty* of Hayes Wire Wheels, but they do value immeasurably the convenience of changing a tire with one-eighth as many operations as a demountable rim requires.

Your own motor car dealer, or the Hayes sales and service station in your locality, will supply Hayes Wire Wheels for your car in any color.

DEALERS: If there is no sales and service station for Hayes Wire Wheels in your vicinity, write us at once for our exceptional dealer proposition.

Wire Wheel Division **Hayes Wheel Company** ***Jackson, Mich.***

World's Largest Builders of Wheels—Wire, Wood, Steel

Sales and Service Stations:

Brooklyn Service Co.
1194 Bedford Ave. Brooklyn, N.Y.

Hayes Wire Wheel Sales Corp.
842-7th Ave. & 146 W. 55th St. N.Y.C.

Evans & Lawrie Co.
1090-2 Commonwealth Ave. Boston

Samuel Scott
2038 Ranstead St. Philadelphia, Pa.

Miller & Woodward
3751 Bigelow Blvd. Pittsburg, Pa.

Brigman Motors Company
491 Whitehall St. Atlanta, Ga.

Siggins Sales Company
106-8 E. Milwaukee Ave. Detroit

Chicago Wheel & Rim Co.
2010-12 Wabash Ave. Chicago, Ill.

Auto-Marine Service Co.
1027 Nicollet Ave. Minneapolis, Minn.

Interstate Auto Company
206-8 E. Superior St. Duluth, Minn.

Motors Equipment & Tractor Co.
1310 S. Grand Ave. Los Angeles, Cal.

H. V. & C. H. Carter
724 Van Ness Ave. San Francisco, Cal.

Automotive Supply Company
1558 Broadway, Denver, Colo.

The Three Captains Co.
700 S. Ervay St. Dallas, Texas

Eldredge Buick Company
Seattle, Wash.

Licensed Manufacturers
HAYES
Wire Wheels

HAYES wire wheels

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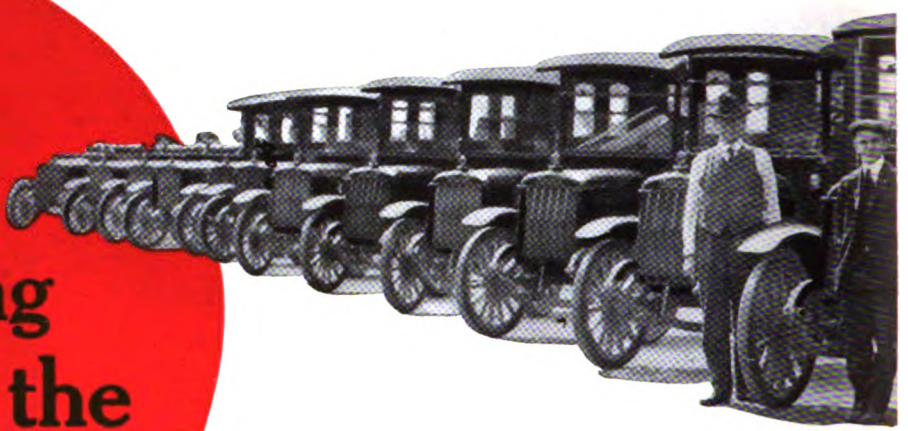
TRANSPORT

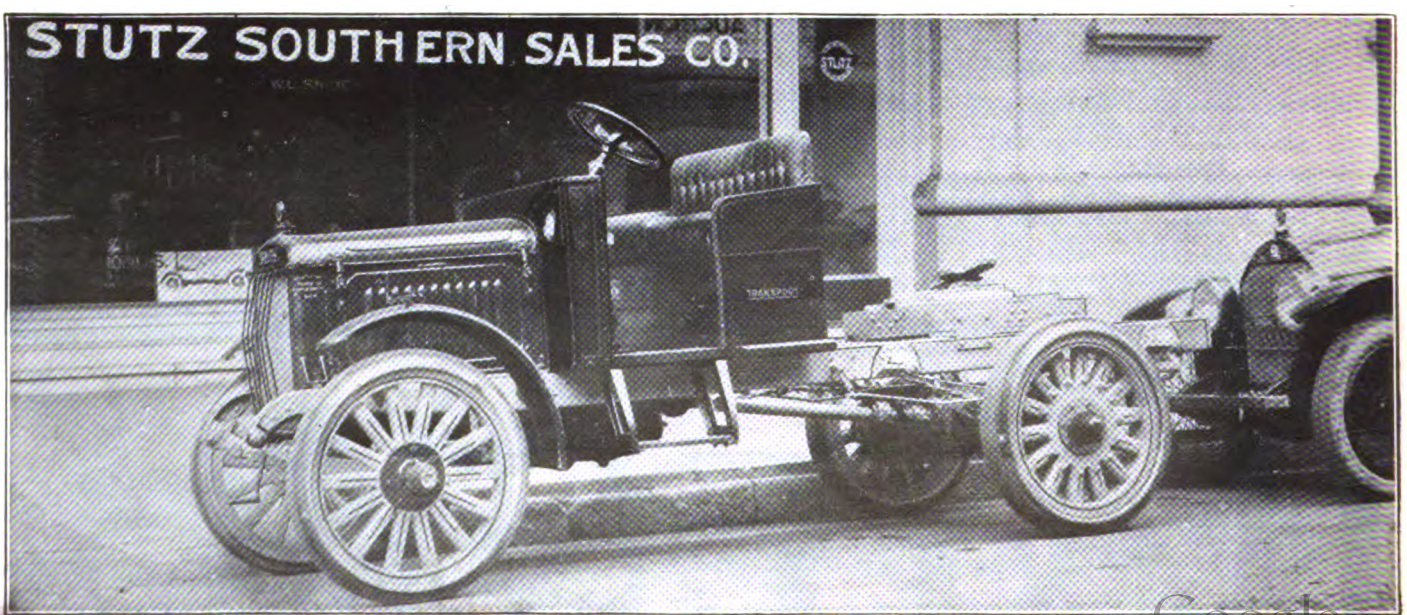
Truck Dealers Are Lining Up Behind the Transport



BECAUSE they know that big men are responsible for the Transport Truck—men of wide experience and reputation—pioneers in truck construction.

They know that the Transport has come to stay—that it is designed on correct principles—that it has behind it permanent resources. Our new factory is now able to cope with an ever widening demand. Incorporating the best improvements that modern ideas and engineering skill can provide, it makes possible the unusual values we put into the Transport.

Dealers who are building on solid rock will do well to look into the proposition we have to make. Study the Transport features—then write us.



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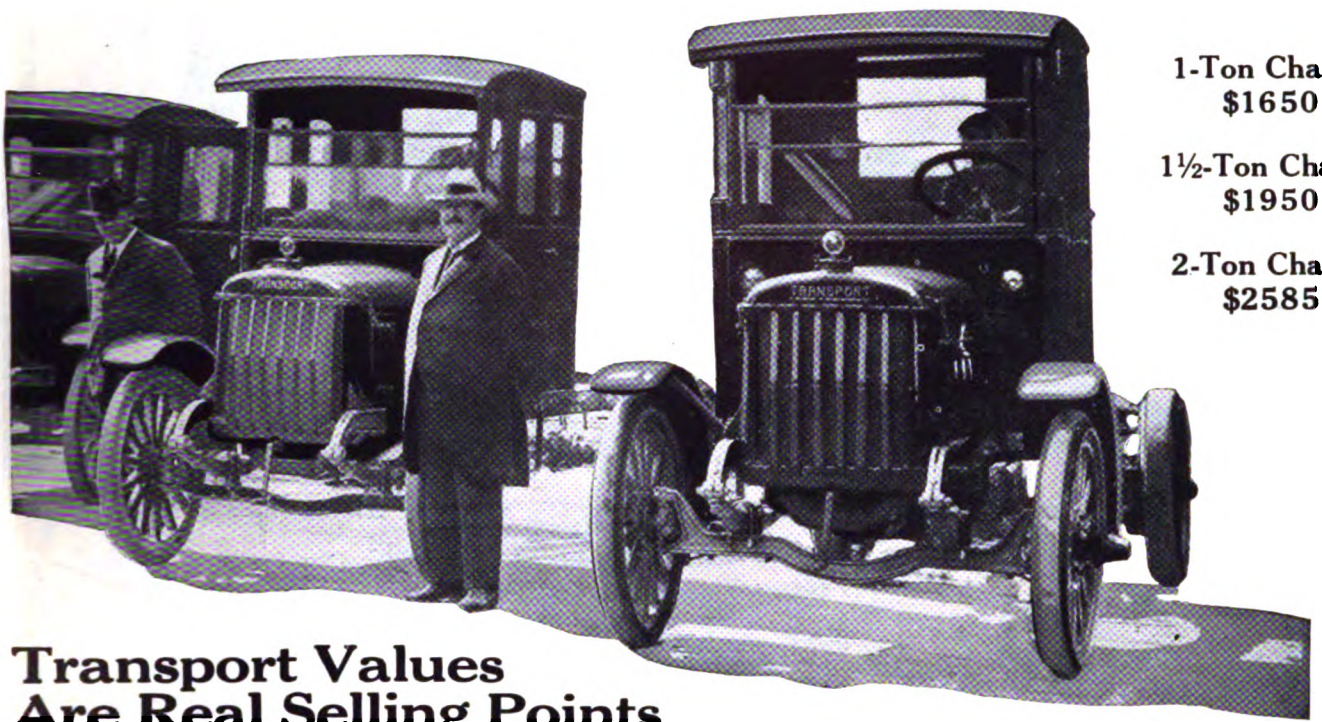
INTERNAL GEAR DRIVE TRUCKS



1-Ton Chassis $1650

1½-Ton Chassis $1950

2-Ton Chassis $2585

Transport Values Are Real Selling Points

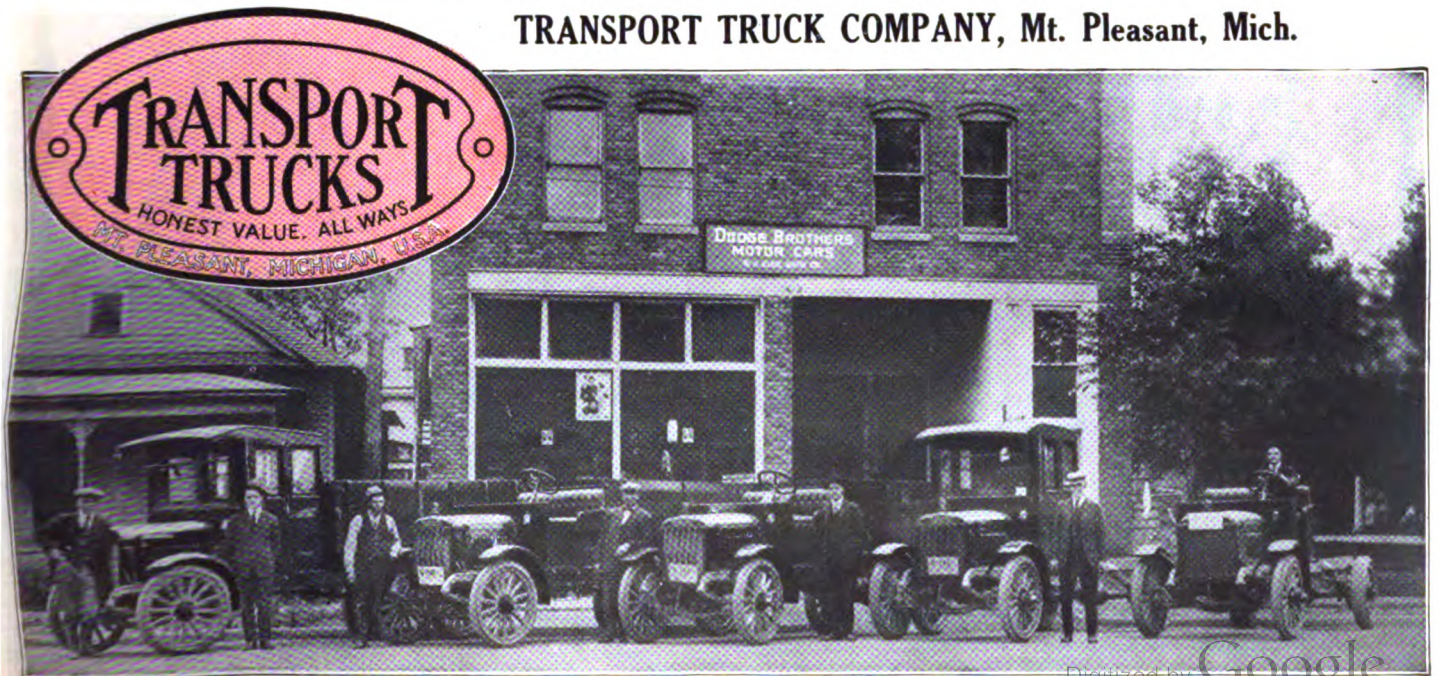
THE TRANSPORT specially designed hot spot intake manifold is another step forward in truck construction and economy of operation. By heating the gas before it enters the cylinders two miles are added to each gallon.

Consider also these features: Extra Heavy Duty Continental Red Seal Engine, Clark Internal Gear Rear Axle, Columbia Front Axle, Fuller & Sons Transmission, Eisemann Magneto, Duplex Engine Governors, Stromberg Carburetor, Jacox Steering Gear, Arvac Joints and Drive Shafts, Detroit Steel Products Springs, Detroit Pressed Steel Frames, Goodyear Tires.

And over half the lubrication is *automatic*, insuring long service and economy.

Is it any wonder dealers consider the Transport proposition the most attractive of the year? Get in touch with us if you have not already.

TRANSPORT TRUCK COMPANY, Mt. Pleasant, Mich.



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BRAENDER TIRES WIN!

POSTAL TELEGRAPH – COMMERCIAL CABLES

TELEGRAM

RECEIVED AT
2 BLOOMFIELD AVE.
PASSAIC, N. J.

1 NYO 7;15 Am 32 Collect
Speedway Tacoma, Wn. July 4th '19
Braender Rubber & Tire Co.,
Rutherford, N.
WON FIRST IN FIRST RACE SECOND IN SECOND LEADING THIRD RACE WITH
SIX LAPS TO GO MOTOR BROKE DOWN TIRES STOOD UP BETTER THAN ANY
OTHER MAKE USED BRAENDER ALL AROUND.
RALPH MULFORD.

(As Usual)

Following the consistent performance at Sheepshead Speedway, June 14th, the showing of BRAENDER Tires at Tacoma, Wash., July 4th; Elgin, Ill., Aug. 23d, and Uniontown, Pa., Sept. 1st, is proof positive that good tire quality with us is not an accident.

It will be remembered

BRAENDER Tires established the World's Record for Tire Endurance at Indianapolis Speedway, May 30, 1913, going the entire 500 miles without a change. Users can get the same high quality in Braender Tires today for regular and touring use.

Send for "Victory Folder" and full particulars.

BRAENDER RUBBER & TIRE COMPANY, Factory: Rutherford, N. J.

BRANCHES - New York: 32 Broadway; Philadelphia: 1350 W. Girard Ave.; Chicago: 64-72 E. 14th Street.

Ask your dealer for them. If he cannot supply you, write the nearest factory branch, or wholesale distributors and they will tell you where you may procure them. Dealers send for proposition.

R. M. Wade & Co. Portland, Oregon, Spokane, Wash.
R. W. Kinney Co. San Francisco, Cal.
G. W. James Tire Co. Los Angeles, Cal.

"The Tyre to Tie To"

BRAENDER

Trade Mark

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Not For Today

But for the Years to Come

THE new Mitchell Six was not designed to meet today's requirements. The object is to give to Mitchell the future first place in this class. Dealers believe that it will. The dealers who seek Mitchells now are the leaders in this line. And no car, we believe, has a higher class of distributors.

After 16 Years

The Mitchell Six which this succeeds was a 16-year development. We pioneered the Light Six.

The hundred improvements we have made in two years are aimed at more strength and endurance. They include larger parts and better materials. There are new heat treatments, more drop forgings.

There is a new inspection system, far-reaching and exacting. The system which the Government installed here on war trucks.

Motor wear has been reduced. Cylinders are ground to utter smoothness. Pistons are perfectly fitted. Crankshafts are twice balanced on two new-type machines.

We secure enduring quiet. Gears are accurately mated, pair by pair. Transmissions are tested in sound-proof rooms. Engines are first tested under electric power.

Fuel cost is much reduced. A thermostat controls the temperature of liquids, air and gas. The carburetor intake is twice-better heated. Motor smoothness saves much waste of power.

The body is new in lines, in finish and equipment. It is a stauncher body. Extra finish gives a lasting luster. The new-grade top retains its newness. The leather upholstery is filled with interlaced hair.

There is a new disc clutch, a ball-bearing steering gear. There are long cantilever rear springs for unique riding comfort, and ample tests have proved these springs unbreakable in use.

We urge investigation of the Mitchell of today. Weigh these new standards and new policies. You will find that they place the Mitchell Six in a new class, and alone.

MITCHELL MOTORS COMPANY, Inc.
Racine, Wisconsin

NEW Mitchell SIXES

OUR VICTORY MODEL

A 16-Year Development
With Over 100 Improvements

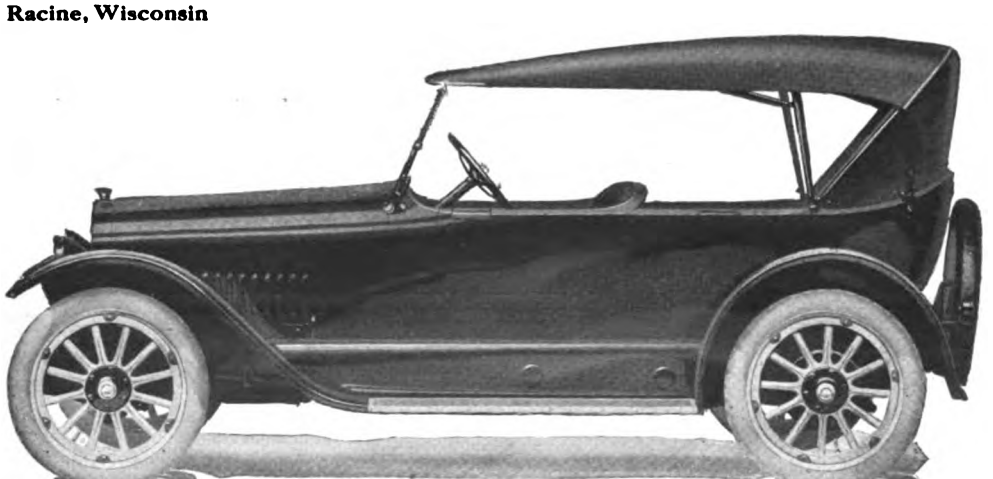
To Build Good-Will

This new car will build good-will for us and for our dealers. Any man will see that who compares the old and the new.

Our efficiency methods are keeping down the cost. We are building the complete car—motor, chassis and body—under scientific cost-reducing methods. The result is an exceptional value.

$1690 at Factory
For 5-Passenger Touring Car
120-In. Wheelbase—40 h. p. Motor
3-Passenger Roadster, same price
Also built as Sedan and Coupe

$1875 at Factory
For 7-Passenger Touring Car
127-In. Wheelbase—48 h. p. Motor



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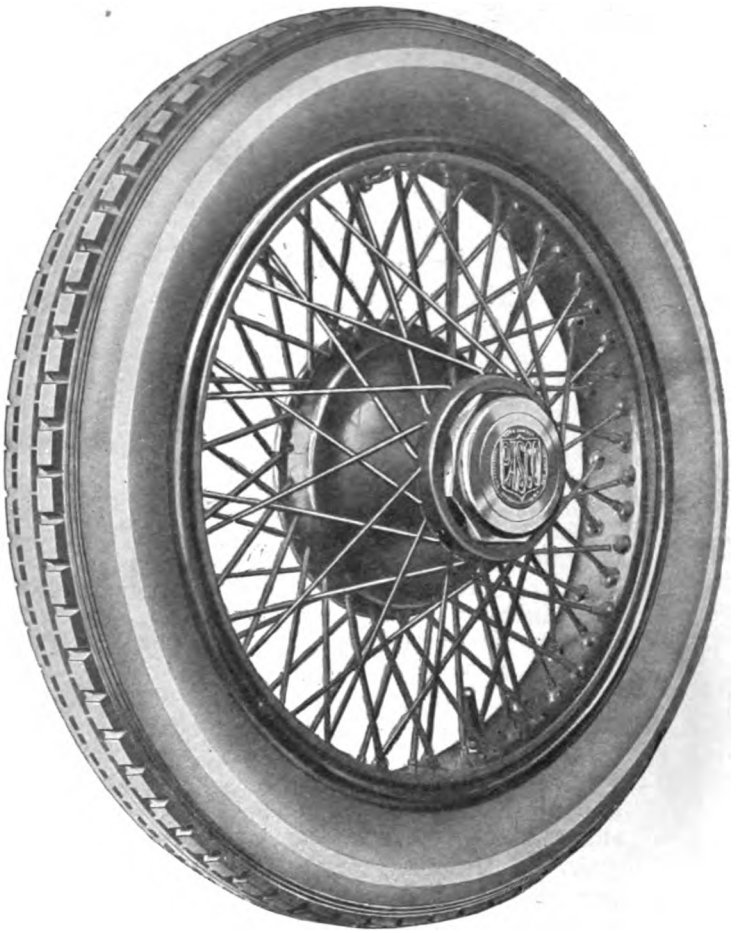
Beauty That Expresses Inherent Strength



The exceptional beauty of Pasco Wire Wheels is a direct consequence of Pasco construction. The features of their design, which give them the appearance of power, grace and distinction, are the same that make them strong, well balanced and convenient.

Take the Pasco hub as an instance. The low, compact, well set effect that Pasco Wire Wheels create is due to this massive, well formed hub which means so much for strength, safety and quick detachability in Pasco construction.

The same parallel can be drawn with other features. With Pascos, as with the majority of well engineered products, beauty and efficiency go together.

Pasco Wire Wheels fit into the assembly of a car, making themselves an integral part of the design and enhancing every effect the designer has aimed to produce. At the same time, they offer a convenience, safety and economy that can be secured in no other way.

This is why Pascos help sell cars.

National Wire Wheel Works, Inc.

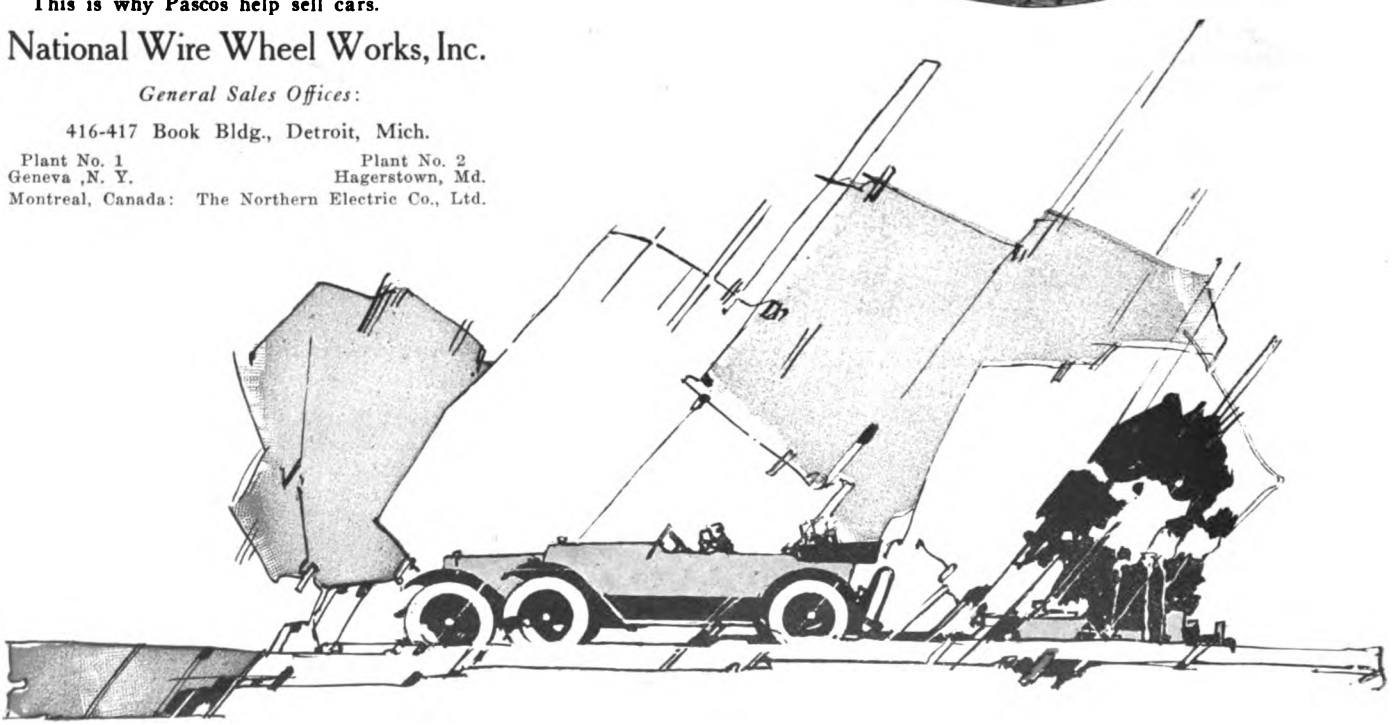
General Sales Offices:

416-417 Book Bldg., Detroit, Mich.

Plant No. 1
Geneva ,N. Y.

Plant No. 2
Hagerstown, Md.

Montreal, Canada: The Northern Electric Co., Ltd.



PASCO WIRE WHEELS

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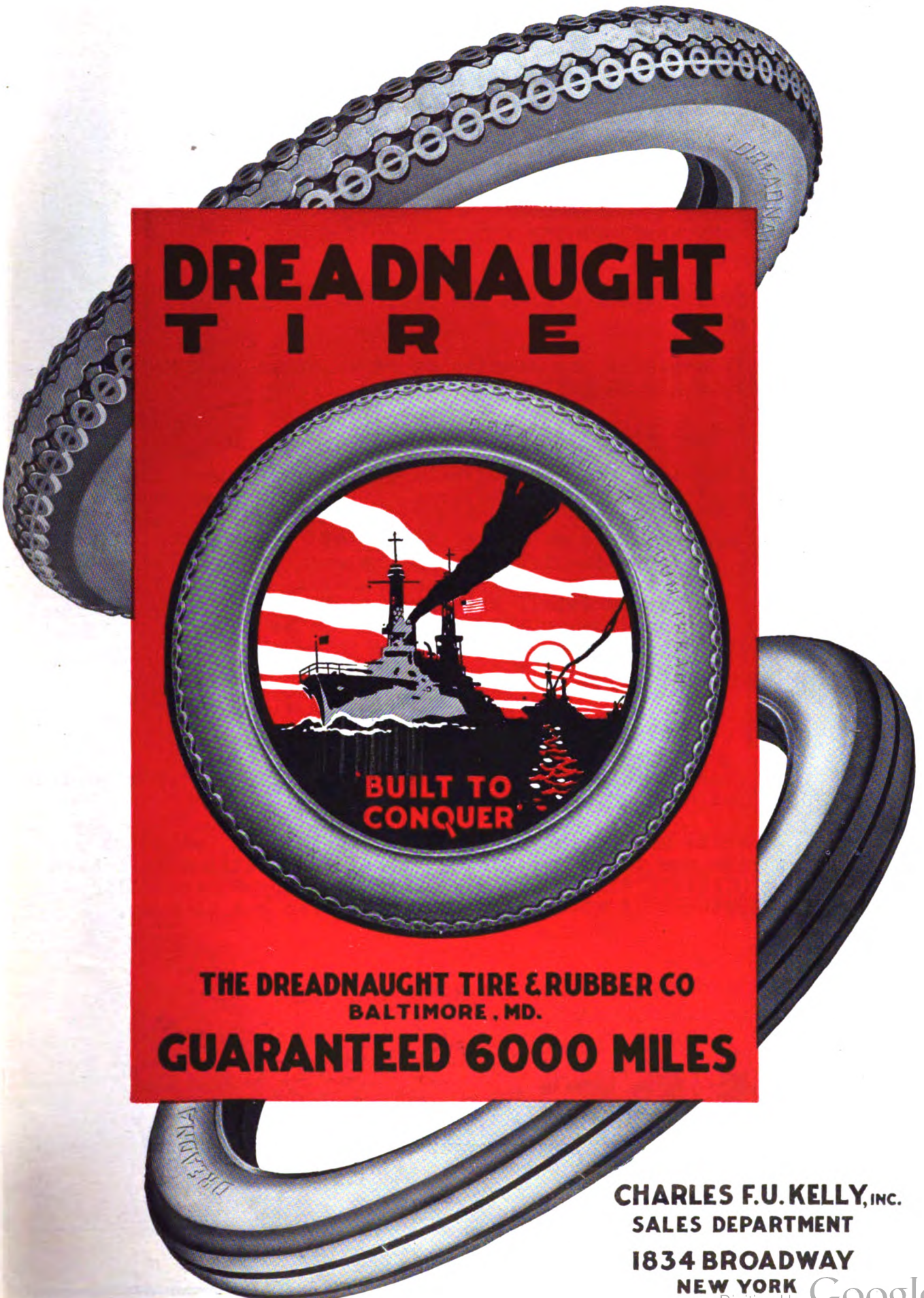

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THE OLDFIELD TIRE CO.

BARNEY OLDFIELD
PRESIDENT
CLEVELAND, O.

TO THE TIRE MERCHANTS OF THE WORLD:-

This Company's plan has been, from the start, a Tire Merchant's plan.

It contains the details an experienced Tire Merchant needs to enable him TO MAKE MONEY.

And it has done this very thing.

Read this paragraph from a letter I received the other day from one of our big distributors:

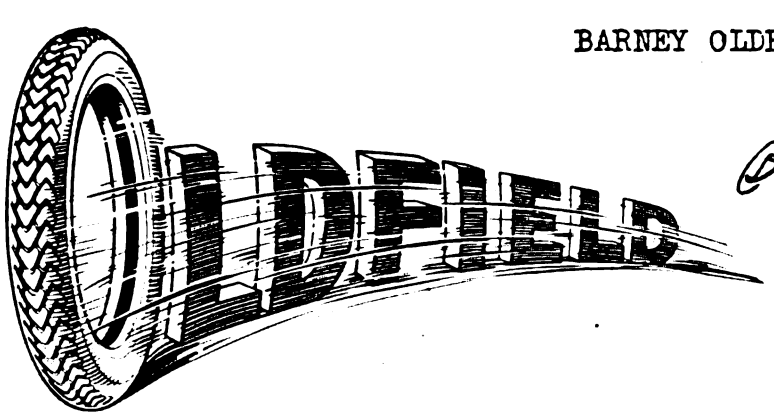
> We take this opportunity of complimenting you in the way your organization has handled every detail and angle of merchandising this product. To be very frank with you, we think the whole outfit is made up of "Honest-to-God" business men. The whole proposition has been handled to our entire satisfaction.

Some of these days I'll enjoy getting a letter like this FROM YOU. Let's take the first step right away.

Write me for the application blank which, will put you in direct line for the money-making, Tire-Merchandising franchise of selling Oldfield Tires - "The Most Trustworthy Tires Built" - in your territory. I'll do my best to help you put it over.

You Know Me,

BARNEY OLDFIELD.



Barney Oldfield

President.

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DORT

Quality Goes Clear Through

Men of High Standing In the Trade

Among the retail automobile merchants of the country you will find that Dort distributors have a reputation for being capable and successful business men.

They are known as believing implicitly in practical cooperation with their dealers.

They work persistently and intensively toward giving their dealer organization every possible ounce of effective assistance.

It is their set and serious aim to make every Dort dealer connection a permanent and profitable business.

The man who holds a Dort dealer franchise may regard himself as being in an unusually fortunate position.

Dort Distributors

EARLE C. ANTHONY CO., Inc.
San Francisco Los Angeles
Fresno Sacramento
San Diego San Jose
Stockton Oakland
California

ARCADE MOTOR CO.
Little Rock, Ark.

BACHMAN MOTOR CO.
Milwaukee, Wis.

BAKER-FISK-HUGILL CO.
Detroit, Mich.

BURWELL-WALKER CO.
Charlotte, N. C.

CARTER MOTOR CO.
Denver, Colo.

DORT SALES CO.
Flint, Mich.

DORT SALES CO.
Kansas City, Mo.

DORT SALES CO,
Oklahoma City, Okla.

LOUIS GEYLER CO.
Chicago, Ill.

KARDELL MOTOR CO.
St. Louis, Mo.

R. V. LAW MOTOR CO.
Indianapolis, Ind.

LACROSSE AUTO CO.
Minneapolis, Minn.

MOTOR CAR EXCHANGE
Buffalo, N. Y.

W. C. McCORMICK
Williamsport, Pa.

McCUTCHEON BROS. VEHICLE & HARNESS CO.
Springfield, Mo.

NORTHWEST AUTO CO.
Portland, Ore.

OHIO WHOLESALE AUTO CO.
Toledo, Ohio

POOLE & McCULLOUGH MOTOR CO.
Atlanta, Ga.

SECURITY MOTOR CO.
Dallas, Texas

TOOZER-GERSPACHER MOTOR CO.
Omaha, Nebr.

UNION MOTOR CAR CO.
Memphis, Tenn.

UTTERBACK-GLEASON CO.
Albany, N.Y. Bangor, Me.
Boston, Mass.

VALDOSTA MOTOR CO.
Valdosta, Ga.

WM. WARNOCK CO.
Sioux City, Ia.

(64)

DORT MOTOR CAR COMPANY

Flint Mich.

Canadian Factory, Gray-Dort Motors, Ltd., Chatham, Ontario

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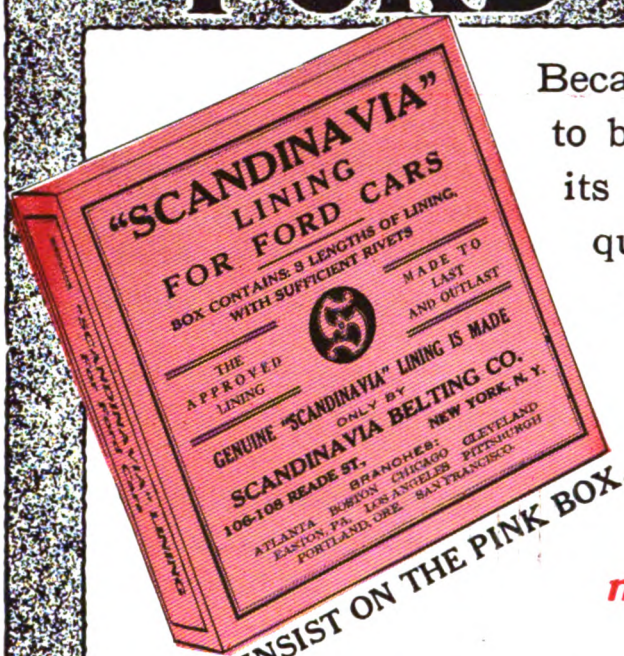
SCANDINAVIA

TRADE MARK REGISTERED IN U.S. PATENT OFFICE

BRAKE LINING for FORD CARS



INSIST ON THE PINK BOX.

Because it has proven itself to be all economy through its unusual long wearing qualities, and its satisfactory service during long usage—

Scandinavia has been the accepted lining for Fords for many years.

More Scandinavia Lining is used for Ford cars than all other linings combined.

Scandinavia is made especially for Ford use. The hot, oily condition of the Planetary Transmission cannot harm it.

It will not chatter or glaze.

It is wear proof.

It is made of the best long staple cotton interwoven into a compact fabric, especially impregnated, processed and hardened to resist heat, oil and grit.

ATTRACTIVE PROPOSITION TO JOBBER AND DEALER.

SCANDINAVIA BELTING CO., 106 READE STREET NEW YORK, N. Y

BRANCHES: Atlanta, Boston, Chicago, Cleveland, Easton, Pa., Pittsburgh. San Francisco. Los Angeles. Portland, Ore.

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Motor West

THE MOTORING AUTHORITY OF THE PACIFIC COAST

VOL. XXXII, No. 1 | OCTOBER 15, 1919 | $2.00 PER YEAR

SHORTAGE OF CARS IS STILL WITH US

Packard Sales Head, Visiting Coast, Says Automobile Industry is Oversold, and Scarcity Will Continue.

No early relief from the shortage of cars is the impression to be taken from the statement of a prominent automobile executive official, Henry Lansdale, sales manager of the Packard Motor Car Co., of Detroit, who recently appeared on the Coast. He plans a few weeks' vacation touring the Coast and was a visitor at the various branches of Earle C. Anthony, Packard dealer in California.

As to when production will reach a point where dealers can build up a surplus of cars to make immediate deliveries possible, Lansdale could not predict. The automobile industry, he points out, as a whole, has never been over-stocked—on the contrary, always over-sold. "If no new owners were added this year to the present list of motor car and truck users, then there would be just enough motor vehicles turned out to take care of the replacements of cars worn out or traded in for later models.

"Every large car manufacturer is striving to increase production and reach the volume attained before we entered the war, but progress is slow, due to many conditions beyond the manufacturers' control. There is a marked shortage of many vital elements that enter into the composition of motor vehicles and the producers of these materials are suffering under the same handicaps as afflict the car makers."

Lansdale points out that there is another factor to be considered—one that could be ignored for the past five years, but deserves thought now—that being our foreign export trade. "There is a big export field opened to American products on account of the war," he says, "and now is the logical time to cultivate it, as we have at least a year's start on the European makers. To properly cultivate this field and gain a strong foothold, a larger percentage of our manufacturers must be exported than before. This supply will be taken from the supply that would ordinarily have gone to United States consumers. So far as meeting the demand is concerned, we will not be able to catch up with that for years.

"As to prices, I do not see how a decrease can take place for a long time, but do anticipate a still further advance in price. The decline in motor car prices starting some years ago and continuing through the war was due to increased output and increased manufacturing efficiency. Even when the tide turned and motor vehicle prices began to advance the climb was not so sharp as shown in nearly every other line of manufactures.

"The advance was due, at first, to increased production, resulting from the demands of war on the motor car factories, and while we are swinging back very rapidly to the volume of two years ago we are using elements in the composition of motor cars which have advanced much more sharply in price than the finished product, although increased efficiency offsets this somewhat.

"Most of the automobile factories, the Packard among them, base the price of their vehicles on the cost of production. Until we can reduce production cost by increased volume, or have the benefits of lower markets on materials and labor, there seems to be no probability of a lower price."

More Capital for Mason Dealer.

Expansion of its business, which is the distributing and selling of Mason tires, has caused the C. Fred Thompson Tire Co., of Los Angeles, Cal., to announce that its capitalization will be increased from $30,000 to $75,000. The company from its start has been a closed corporation. C. Fred Thompson took the Mason tire distributing agency with Southern California and Arizona as sales territory, about two years ago.

COAST LEADS IN CARS PER CAPITA

All the Big Cities in this Territory Stand More than Half-Way Up in the Percentage List.

American cities now have a new index of the prosperity and enterprise of their citizens, this being the number of automobiles owned in proportion to the total number of inhabitants. In a list of automobiles owned in thirty-five cities of the United States, eight of the nine cities of the Far West and Pacific Coast included therein, stand more than half way up the list. These figures give Des Moines, Iowa, with its rich agricultural territory, 15,000 cars and first place in rank of cars per head, being almost 7 cars per person.

The only difficulty with such figures is that statisticians must wait for the 1920 census before per capita statistics can be drawn up that are much more than guess-work.

Omaha and Detroit come next after Des Moines, the "automobile capital" showing 80,000 cars, almost 60,000 less than New York City, which leads the country and the world in total number of cars owned, but which foots the list among large American cities in cars owned per person.

Then comes Los Angeles — population estimated at 535,000, cars owned 63,000, persons per car, about 8.4. Oakland has 206,000 population, 24,000 cars, 8.5 cars per person. Seattle is sixth, having 366,000 population, 37,600 cars, 9.6 cars per person. Cleveland leads San Francisco, which stands eighth.

The Golden Gate city is given a population of 471,000, about 40,000 cars and a per capita of 11.7. San Diego has 10,000 cars, which is 12.8 per person, and is ninth on the list. Spokane has 2,500 more cars than San Diego, but ranks thirteenth per capita. Portland, Ore., is seventeenth, having 22,500 cars, 13.6 per person.

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ARIZONA BOASTS 27,398 MOTOR CARS

Gain for First Nine Months of 1919 is 3493 Over the Total Registration at End of Last Year.

Arizona had 27,398 motor cars and trucks at the end of September, according to figures recently given out by Mit Simms, secretary of state. During September alone 756 motor vehicles were licensed.

Analysis of the registration figures for Arizona's fourteen counties shows that Maricopa, containing the city of Phoenix, has 10,340 cars, a tremendous lead over the other counties, or more than a third of the total. Next in order is Cochise county, 3,721; and Pima 2,453; both counties studded with mining towns. Three other counties are above the 1,000 mark and eight more below it, as evidenced by the following figures:

Maricopa	10,340
Cochise	3,721
Pima	2,453
Gila	2,398
Yavapai	1,986
Yuma	1,495
Pinal	953
Graham	765
Santa Cruz	740
Mohave	671
Coconino	581
Navajo	581
Greenlee	501
Apache	233

The total number of motor vehicle registrations for the year 1918 was 23,905, an increase of a little more than 4,000 over the year before. This showed a falling off, to be blamed on the war, compared with the 1917 increase, which was not far short of 8,000 increase over 1916. The 1919 increase for the first nine months of the year is 3,493, making it likely that 1919 wil surpass the war year considerably, though not reaching the mark set by 1917.

Montana Has 58,300 Cars.

Montana residents will have spent some $51,000,000 on automobiles past and present before the end of the present year, according to official figures on motor vehicle registrations. About mid-September 58,300 motor vehicles had been registered, an increase of 6,000 over last year.

The average cost of cars in the state is estimated at $1,000 and about $150 is spent per car on upkeep, repairs, licenses and sundries. Montana is strong for a certain much-maligned type of small car, of which there are two thirds to all others combined.

Only a few cities in the state have cars calling for $15 licenses. They sell for around $7,000 and $8,000, can be counted on the fingers of both hands and are found in Helena, Butte, Great Falls, Billings, Miles City and Virginia City. Up to the same date 406 dealers and 1,524 chauffeurs were registered.

Firm and Owners' Mutual Interest.

"Faulkner Flights" is the new publication which is now appearing under the direction of the advertising department of the Al. G. Faulkner Co., of San Francisco and Los Angeles. As Marmon car distributor with a territory that embraces California, Nevada and the Hawaiian Islands the company found that the great growth of Marmon owners in its own field was making it difficult to maintain the personal touch and feeling of mutual interest. "Faulkner Flights" is thus more than a house organ; it will further the interests of the entire big family of Marmon owners and its own organization members alike.

Miller Tire Dealers Meet.

Fifty-two tire men attended the annual Miller tire dealers' meeting held in Los Angeles recently under the auspices of the Miller Tire Sales Co., of Los Angeles. Mr. Utter, manager of the company, took charge of the meeting and numerous points and policies of tire selling were cleared up by an interesting general discussion.

"Bad Road" for Testing Ground.

Owing to the fact that highways in Southern California are generally so good, E. B. Wilson, Los Angeles branch manager of the Willys-Overland Pacific Co., has been forced to construct a "bad road" over land opposite the branch house at Eleventh and Hope Sts. Here is being demonstrated the long-expected new Overland Four.

The "bad road" has all the bone-jolting, heart-vexing, spring-breaking features that could be gotten into its quarter-mile length. The Overland circling it meets railroad crossings, cobble-stone surfaces, deep ruts, steps and eight-inch curbs. Also the track was built so that any car entering the track has to turn in a 33½-foot circle before it can drive out again. The new Overland will meet this condition, having a turning radius shorter than that of any other car now sold, it is said.

Study South As Tire Field.

The tire situation and the tire industry as it is in Southern California has recently been the special study of A. L. Miller, T. W. Morton and C. Fain, representing the Firestone Tire & Rubber Co., of Akron, O. According to Miller, production with Firestone is still trailing away behind demand, though its two great Akron plants are turning out 22,000 tires and 25,000 tubes a day.

Can Satisfy Law Without Batteries.

It is not absolutely necessary for Ford cars to be equipped with batteries, in order to satisfy the requirements of the lighting law, according to a recent ruling of the California Motor Vehicle Department. "The attitude of the department," runs this ruling, "is to carry out the intent of the legislature to eliminate dangerous glare. Accordingly, we suggest that where a Ford owner does not desire to purchase a certified manufactured device he can buy a standard rib glass, put in a 21 vacuum bulb or a 27 gas-filled type, tilt his lights four feet in 100 and rotate the rib glass 20 degrees clockwise, which is to the right of the perpendicular, 1½ inches.

"The approved home-made device best adapted to Ford cars is the standard rib glass, or any of the certified manufactured devices set forth in our list. Of course, there are certain manufactured devices in our table that cannot be used on Fords, these including lenses where the candle-power of the lamps permissible is less than 21 vacuum or 27 gas-filled type. This is for the reason that these are the only two types that are on the market in the nine volt."

The department's first purpose is to eliminate glare. Afterward it will go into the other features of the act, as to the minimum and maximum light, "but to comply with the intent of the legislature as regards dangerous glare it will not be necessary under our rule for Ford cars in install batteries." With batteries, however, the owner will get better results than without them, though there may be loss of battery power due to lack of re-charging apparatus on the Ford car.

Great Increase in Idaho Cars.

Unofficial but reliable figures fo motor vehicle registrations in Idaho gave the state 41,000 licensed cars at the end of September. This represents a 25 per cent increase over the 1918 figures, 32,281 cars being registered last year. In 1913 only 2083 cars were registered in Idaho, so that the number of cars now in the state is nineteen times greater than that of six years ago.

No More Parking in L. A. Alleys.

See the man. He is a police man. What is he doing? He is looking at an automobile, parked in the wrong place, or too long, at the curb. He is making a memo. Now he is tagging the machine. Tomorrow the owner will have to drop business for the pleasure of saying good morning to the judge. Hereafter this will be so not only as to Los Angeles streets but to alleys as well. The ordinance has been on the books but not in force.

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Seattle Tire Men Unite.

Of all branches of the automobile industry probably the tire trade has suffered most from the numerous fly-by-night individuals and concerns who have slipped into it in the course of its rapid growth to the present tremendous importance. Seattle, Wash., tire dealers are banding together in a strong organization which has for its slogan, "a square deal to the public." At a recent date thirty-three of the largest, most enterprising tire factory branches and tire dealers in the city were enrolled in the Seattle Tire Dealers' Association.

By buying from the association's members the tire user protects himself with a double guarantee—the personal guarantee of the individual dealer added to the factory guarantee. A tire sold as a "first" will always be a "first"—fresh stock backed by their guarantee. A "second" or a "rebuilt" tire is called such when sold and full value will be given for the money spent.

Regard the Buttons in San Francisco.

Five hundred dollars' fine or six months in the city jail, or both, will hereafter be the fate of motorists in San Francisco found guilty of passing street crossing buttons on any side but the right side. The San Francisco board of supervisors passed the ordinance recently, which provides that "it shall be unlawful for any driver to pass said buttons except on the right side thereof."

The new ordinance will be rigidly enforced, traffic and police officials announce, because they are certain that observance of the buttons will reduce street crossing accidents to a minimum.

Shields-Livengood in Spokane.

The Shields-Livengood Motor Co., of Seattle, Wash., has lately received a great volume of business from the eastern Washington territory across the mountains, more than its efficient Yakima branch could handle. The result is a branch now in Spokane handling the company's five lines—National, Liberty and Lexington cars and Traffic and Standard trucks. Henry Gorman heads the new branch.

Troubles of the Speed Cops.

It is well to see ourselves as others see us—for example the man in charge of a city's motorcycle squad of police. One of them says that most drivers honestly try to be lawful, but that most of us break a law now and then. The worst offenders are young chaps who know just enough to steer, step on the throttle and sound the horn. Old drivers and racers give little trouble. The man scooting along the main street or waking the dead with cutout open is probably a new one. Most street accidents are the result of speeding to a crossing and trying to bluff the other fellow; by using horns instead of brakes; by hugging the center of the road; by glaring headlights. On boulevards the chief cause of trouble is hitting another car head on while passing one just in front. Opening the muffler on hills, under the delusion that power is gained, causes complaint, particularly against motor trucks. In fact, the speed cop's problems are hard ones.

Shipping Los Angeles Automobiles.

The management, sales and factory forces of the Leach-Biltwell Motor Co. Los Angeles, recently celebrated the first weekly carload shipment of Leach Power Plus Sixes. It went to Ranger, Tex., which is said to have more millionaires per square mile than any community of its size in the country. Miss Jane Morgan was given the honor of piloting the caravan to the station. The company has carload orders from as far away as Oklahoma and Vancouver, and within six months hopes to be exporting.

Idaho Man on Southern Road Hogs.

Clay Vance, of Mackay, Idaho, president of the state association of cattle raisers, drove his Chandler to Los Angeles, 1097 miles. He says he did not meet a road hog until he neared the city of the Angeles, and that "up in my country they would hang a fellow who drives like they do down here."

Co-Operation to Save Fire Loss.

Interference with fire fighters has reached the breaking point in Los Angeles, where the department is asking more co-operation, to save lives of firemen and others as well as many thousands of dollars' worth of property. Get to the curb and stay there till the firemen pass. Swinging in behind apparatus delays apparatus coming, especially on second alarm. Don't drive over hose. Keep the route clear. That is what is asked. It fits everywhere.

Dealers Form Insurance Firm.

Representing a number of the most prominent automobile dealers of Los Angeles and San Francisco the West American Automobile & Fire Insurance Co. has filed papers of incorporation for $250,000. The directors of the company are Ralph Hamlin, A. C. Robbins, Lynn C. Buxton, H. J. Coger, L. V. Starr, O. R. Fuller, Stanley W. Smith, F. S. Albertson, Dave F. Smith, James V. Baldwin, E. R. Carpenter and B. A. Finch, all leaders in Los Angeles automobile circles, and W. L. Hughson, Roy B. Alexander and A. D. Plughoff, equally prominent in San Francisco.

OREGON DEALERS' STATE FAIR SHOW

Most Successful Ever Held—Much Educational Work Done in Absence of Cars for Actual Delivery.

The automobile and truck show held under the auspices of the Dealers' Motor Car Association of Oregon at the Salem, Ore., state fair, Sept. 22-27, was the most successful ever held there. In fact, the Oregon state fair this year proved more popular than ever before, attendance figures totaling 150,000 for the six days. Of these persons, a large number took in the automobile and truck exhibits, which had an advantageous location near the main entrance.

Several new models and cars not before represented in Oregon had their premiere public exhibition to Oregon people at the state fair show. These included the new Overland Four, the Cleveland Six, the Jones Six, and the Anderson Six.

The show was under the management of M. O. Winkins, president of the Dealers' Motor Car Association of Oregon. While no large volume of sales resulted, the dealers feel satisfied with the interest shown. Under present conditions they could not have filled orders, anyway. The main value of the show to them lay in the opportunity it gave to show and talk cars and trucks to farmers and visitors from remote communities, who make of the state fair an annual outing event.

Both Portland and Salem dealers were well represented. In the list of cars exhibited were the Chalmers, Auburn, Dixie, Moon, Stephens, Reo, Studebaker, Jones Six, Winton, Haynes, Elgin, Grant, Apperson, Oakland and Mitchell; and trucks, G.M.C., Day-Elder, Diamond T, Federal, Jumbo and Sterling.

Paige Dealer in New Home.

Bringing to a successful close its first year as dealer agency for Paige cars and trucks in Southern California, A. E. Evans & Co. have occupied their new building on S. Figueroa St., near Sixteenth, in Los Angeles. Exclusive of mezzanine floor, which contains the company's offices, it will have more than 13,000 square feet of floor space in its new brick home.

Heads Daniels Car Agency.

T. L. Schlueter has been appointed manager of the Pacific States Motors Co., of San Francisco, Cal., according to the announcement of George Campe, head of the company. His firm is Northern California distributor for Daniels Eight cars.

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WELDING LINKS ON INTER-STATE ROADS

California and Oregon Soon to Ask for Bids to Complete Extensions on Several Main Trunk Routes.

What practically amounts to an extension of the Oregon road system is part of a California program involving $3,600,000. This is the sum set aside in the new California bond issue for development of highways which connect with Oregon state roads.

Within a short time the Oregon state highway commission will call for contracts for the section between Klamath Falls, Ore., and Maline, Cal. This is a segment of The Dalles-California highway running north and south through Oregon. Maline is a small town on the Oregon-California line. The Oregon section will be 16 feet wide on the surface and covered with macadam, and this road from Maline will wend northward through Klamath county, Deschutes and Jefferson counties to a connection with the Columbia River highway somewhere near The Dalles.

At Maline connection is made with the Alturaş highway, this road going from Alturas to Red Bluff. The Oregon connection will be somewhere near New Pine creek, near Lakeview, and at Maline. On this Alturas highway California has voted bonds to the amount of $1,400,000.

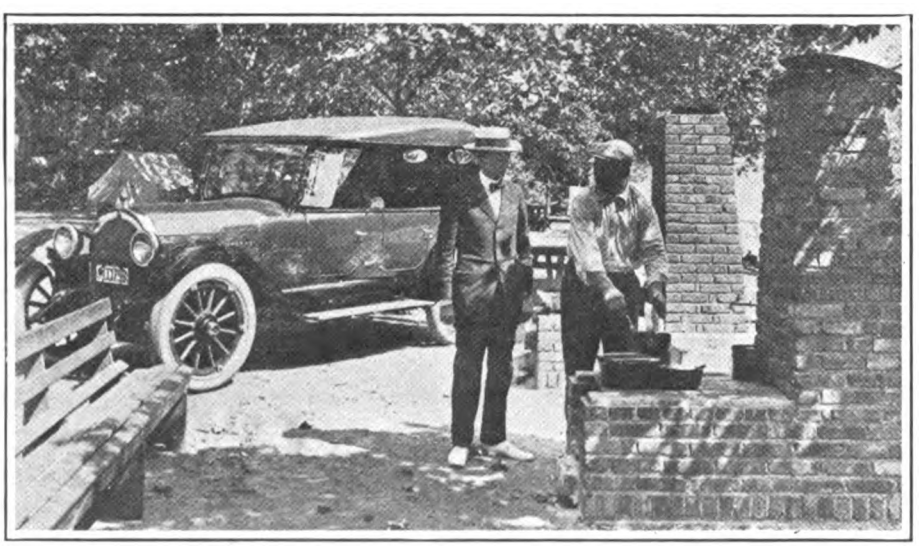
When the California and Oregon roads are completed, they will form a splendid travel route on the east side of the Cascade range and provide a trade route of immense commercial benefit to both states.

There is also a matter of $1,800,000 designated in the California bond issue for a scenic road along the Klamath river from Hornbrook, Cal., to the mouth of the stream. But for scenic purposes there would be no particular occasion for this highway, as there is virtually no trade on the Klamath river and the proposed highway will meander through a wild country. But scenically, it will be a wonder. It will require several years to complete, owing to the difficulties of construction.

Oregon will derive as much benefit from this scenic road as California, for it is near the Oregon line. Oregon travelers can go over the Pacific highway to Hornbrook, which is a short distance across the line, and can, at that point, swing westward toward the Pacific ocean along the Klamath river road.

Beverly Hills Track to Open Season.

The 1920 championship automobile racing season on the Coast will open on the new speedway at Beverly Hills, near Los Angeles, on Washington's Birthday. The performances of drivers entering this race will count in the scores kept by the national racing board to determine the speedway championship of America. Prominent officials of the American Automobile Association will be present. The prize money offered by the newly formed Speedway Association, which is erecting the Beverly Hills track, will amount to $25,000.



LOS ANGELES MAYOR LOOKS OVER CITY'S FIRST MOTOR CAMP GROUND.

Los Angeles' first motor camp ground at Sycamore Park will be closed within a few days, according to a recent announcement of the Park Commission. The Sycamore Grove site was only intended as a temporary one, but proved a tremendous success, being crowded with cars from almost every state in the Union during the period it was open.

Announcement was made by Mrs. Sloan-Orcutt, president of the Park Commission recently, that plans have been completed for the permanent camp it is hoped to build in a canyon in Elysian Park. The City Council has been asked for $4000 to completely equip such a camp with stoves, gas, electricity, water, and shower baths. Such an establishment by the city has long been urged by the Chamber of Commerce and by the Automobile Club of Southern California, and the backers of the enterprise are strongly in hopes that this time the action of the council in the matter will be favorable. The photograph shows Mayor M. P. Snyder inspecting the cooking arrangements at the camp.

S. F. Show in February.

San Francisco dealers will hold their annual automobile show Feb. 21-28, 1920. This will be the fourth to be held under the auspices of the Motor Car Dealers' Association of San Francisco and if present indications are of any value the 1920 exhibition will be on a plane which will entitle it to be considered unofficially the third national automobile show of the country. George A. Wahlgreen will act as manager.

That honor the show committee of the National Automobile Association still refuses to officially bestow, apparently unshaken in their belief that two automobile shows held in the East are sufficient to represent the country.

In San Francisco efforts are already afoot for the preparation and staging of an exhibition of automobiles which will surpass any national show in beauty and appeal to the public interest, if not in the gross number of automobiles displayed.

Last year there was practically not a single new car displayed at any of the large automobile shows. Now that war's blight is removed Pacific Coast dealers will have opportunity to gratify that enterprise and originality in which they surpass those of any other section of the country.

During the second week of October the San Francisco dealers' body held its meeting and decided on staging its fourth annual show in February. Cars, trucks, trailers and accessories will be shown.

Coast Bodies Surpassed by None.

Custom-built automobile bodies that are surpassed for art and refinement of design by those produced in no other section of the country will continue to be built at the former Earl Automobile Body Works. Some time ago the establishment was purchased by Don Lee, well known on the Coast as Cadillac dealer for California. The output, says Lee, will be limited, but he expects that during the year some 150 closed and open bodies will be turned out.

Good Speedometers in Seattle.

A number of arrests of motorists have recently been made in Seattle, Wash., for no less a crime than having defective speedometers on their cars. Lately the city authorities have passed a traffic ordinance which does not only demand that there be an easily readable speedometer on the dashboard of all cars and trucks running on pneumatic tires, but insists that said speedometer shall be in good running order and properly register the number of miles covered by the car per hour. A few motorists pleaded defective speedometers and found they had broken two laws instead of one and were liable to the penalties for both.

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Clear Up New Signal Laws.

Backed by an opinion of Attorney-General U. S. Webb, the California State Automobile Association, has launched a campaign to educate the automobile public in rules for stop and turn signals. The executive committee of the Association, Percy Towne, chairman, advises motorists as follows:

Signals must be given when near other cars likely to be affected. The arm signal is enough if it can be seen from 15 feet in the rear. Thus a signal is not needed:

1. In any open car without projecting body or load.

2. In any closed car if driven with window open, or driver's seat not enclosed.

3. In any truck or commercial vehicle where location of the driver's seat permits driver or assistant to give visible arm signal.

But the signal device is needed:

1. When arm signal would not be visible to driver of car 15 feet in rear. This includes trucks with bodies or loads so massive that arm signals cannot be seen from the rear when given from the driver's seat.

No signal need be given except when the proposed stop or change of direction is likely to affect another car. If no car is in the rear no signal need be given. The signal device may be used in place of the arm signal in any case at the driver's option.

Arrest can in no case be made for failure to have equipment; only for failure to give the visible sign.

The California State Automobile Association holds that these rules are in accordance with the recent opinion of the Attorney-General and will protest any differently attempted enforcement of the law.

Owen Tire of High-Grade Make.

Distribution of the products of the Owen Tire & Rubber Co., of Bedford, O., on the Pacific Coast has been taken by Geo. H. Eckert & Co., of San Francisco, Cal. The Coast distributor now has representatives in Seattle and Los Angeles and announces that considering the short time the Owen line has been on the Coast the results obtained have been much better than expected.

The Owen line is a quality tire and cannot be sold as a low-priced piece of goods. It has an 8,000-mile guarantee and nothing but the best materials are used in its construction. The line consists of both fabric and cord pneumatic tires and will shortly include pneumatic truck tires.

New Head of N. W. Studebaker.

E. H. McCarty, for nearly three years manager of the Northwest branch of the Studebaker Corp. of America, with headquarters in Portland, Ore., has been recalled to the factory at South Bend, Ind., to become assistant general sales manager for the Studebaker Corp. He will be one of two men holding this rank.

During his stay in the Northwest McCarty has made an impressive record. Sales of Studebaker cars in the entire territory under his charge have increased to a phenomenal degree, not all of which can be attributed to the general demand for automobiles.

McCarty's successor as Northwest manager is J. K. Leander. He only recently rejoined the Studebaker organization after several months in the army as machine gun instructor. Before the war he was district manager of the Studebaker branch at Chicago.

Joins Renstrom Staff in S. F.

The latest addition to the staff of the Frank O. Renstrom Co., of San Francisco, Cal., is H. B. Laidlaw, who has assumed the duties of advertising manager. When war was declared against Germany Laidlaw was connected with a San Francisco newspaper. He joined the air service, won a commission as first lieutenant and served eighteen months in France and Italy as a flier. When the armistice came he was with the famous first aerial squadron in the Argonne. Laidlaw is a particular enthusiast over the new Grant Six, which Renstrom handles together with Permier and Briscoe cars, Atterbury trucks and Twin City tractors. The new cars will not be exhibited until late in the month, but the San Francisco dealer has been swamped with requests for information and many orders have been booked.

U. S. Rubber's Remarkable Growth.

When the United States Rubber Co. opened its Southern California branch in Los Angeles in May, 1916, it was found that 20,000 square feet of floor space was ample to accommodate the company's business. Today it has 65,000 square feet of floor space and the organization is five times larger than three years ago. From the Los Angeles headquarters, located on S. Los Angeles St., near Ninth, Manager J. B. Magee directs all United States Rubber business in Southern California and Arizona.

Dr. Skelton Heads Premier.

Dr. L. S. Skelton, of Ockmulgee, who two or three years ago furnished the financial backing of the Leach and Frawley dealer organization, handling the Premier car in California, has become head of the Premier Motor Car Corp., of Indianapolis, according to recent report. Skelton, it is said, has purchased 65 per cent of the total Premier stock. He has large oil, lead zinc and glass properties in the West

HAWAIIANS IN NEED OF GAS AND SHIPS

There is Also a Dearth of Motor Cars, but Shortage of Shipping is Greatest Drawback to Industry.

The automobile and automobile dealers are doing much to acquaint us with the lands and continents that fringe the other border of the Pacific opposite our own renowned West Coast. Japan, China, the Philippines, Australia are receiving more and more attention from automobile exporters as markets for American cars and trucks, while Hawaii, that almost mid-Pacific group of islands, still stands as the land of climate unsurpassed. Comes A. E. Morrison, former sales manager for the Cole Aero Eight distributor in the Islands, and gives some interesting information.

The demand for high-grade cars there knows no end, he says, although freight charges and double handling cause them to be sold at higher prices than prevail in any part of the States. Hawaiian dealers make the long pilgrimage to the West Coast and thence to the factories with the familiar demand for "more cars."

"There are no poor people on the Islands," says Morrison. "Practically every one has money and the only joy there is is motoring. The climate is fine all year 'round. People travel at night in their cars coatless and in their shirt sleeves.

"Just before I left the Islands were in a fine fix. No gasoline to be had at any price. The Honolulu Chamber of Commerce issued permits and no one was allowed to buy more than 5 gallons of gasoline, and then only when urgent necessity was proved. When an oil tanker arrived to break the famine there were less than 500 gallons in Honolulu.

"Shortage of shipping is the greatest drawback the Islands have now. Tourists who arrive in Honolulu are forced sometimes to wait weeks for accommodations back home, and space on passenger ships bound for the United States is at a premium.

"The Japanese in Hawaii are rapidly entering the motor car business. They are trained in American garages, then open places for themselves. Japanese buy hundreds of automobiles every year and are becoming quite a factor in Hawaiian business life.

"Labor is a problem there just like it is here. Men come to work when they feel ready. A man quits for a few days, then comes back to the shop, puts on his overalls and goes to work just as if nothing had happened."

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CAR MECHANICS IN PORTLAND UNIONIZE

Objects to Recent Law Compelling Them to Pass Examination—Closed Shop, 44-Hour Week other Demands.

Automobile mechanics of Portland, Ore., have formed a union and have presented a proposed agreement to the Dealers' Motor Car Association of Oregon calling for closed shop, wage scale, 44-hour week with half-holiday Saturday and no Sunday work under any circumstances, and division of all automobile mechanics into four classes.

Behind their demands looms the $5 examination fee for automobile mechanics imposed by the last legislature in the law creating a state board of automobile mechanics examiners and requiring that any mechanic working for hire on an automobile or truck must first have passed an examination and received a certificate that he is a qualified mechanic. The mechanics object strenuously to this fee. As a matter of fact, the real objection appears to be against any examination at all, and the accompanying possibility that a man who has been getting by as a first-class mechanic will find himself reduced in grade to the status of helper.

At present, incidentally, the law is tied up by injunction proceedings brought in the courts by a mechanic.

David M. Ellis, business agent for the new union, claims 700 members for it, and that it will soon be statewide in scope. In substance, the agreement presented by the union to the Dealers' Motor Car Association of Oregon provides that eight hours shall constitute a day's work, in nine consecutive hours, except on Saturday, when work shall stop at noon, making a 44-hour week; overtime to be paid at time and one-half for the first two hours and double time after that, except on Saturday, when the overtime shall be paid at double time; double time to be paid on all holidays, but no work to be done on Sunday or Labor Day.

New men are to have two weeks to familiarize themselves with new models and new cars, and if at the end of that time their work is satisfactory, they shall be paid the scale. The union would absolutely control employment of new men through the provision that all help shall be hired through the office of the local, except where it cannot furnish such help, and that all help hired otherwise must be signed up with the union within 48 hours.

The wage scale does not differ greatly from wages now generally paid, some shops even paying above the proposed scale, which is: Machinists, $1 per hour; journeymen mechanics, 87½ cents an hour; mechanics, 75 cents an hour; helpers, 50 cents an hour. This classification once accepted by the Association, it is claimed, would offset any other classification that might be made as a result of examinations under the automobile mechanics law.

The Dealers' Motor Car Association has not as yet taken action on the agreement. Majority opinion of the individual dealers, however, is opposed to the closed shop and 44-hour week provisions. So far as the automobile mechanics law is concerned, most of them would just as soon see it permanently enjoined and forgotten.

New Air Transport Company.

Transportation of passengers will be merely one branch of the business to be handled by the new company, with headquarters in Oakland, Cal. Sales and service of airplanes will reach a greater volume than the first-named venture. Three additional hangars are being erected on the Durant aviation field in Oakland and three more are to be added shortly. The entire 72 acres of the field will be turfed, making it surpassed by no other flying field in the world and filling all the class A specifications of the Aero Club of America.

Temporary landing fields have been secured at Modesto, Merced, Fresno, Bakersfield, Los Angeles, Riverside and San Diego and will be obtained at Sacramento and Stockton. Three aviators will make up the first flying staff to be employed. F. W. Aubert, who nine years ago was one of the crew of the ill-fated Wellman attempt to cross the Atlantic by air, is general manager; Frank Lowry, well known automobile race starter, is vice-president; and Wickham Havens, secretary.

Utility Trailers in No. California.

The Utility Trailer Sales Corp. has been incorporated in San Francisco, succeeding the San Francisco Trailer Co. The company will act as Northern distributor for the Utility line of trailers manufactured by the Los Angeles Trailer Co., of Los Angeles. M. L. S. Mitchell, founder and manager of the old company, become president and general manager of the new corporation. W. G. Hartranft, Jr., is vice-president and E. W. Bennett, secretary-treasurer.

Ace Truck in Oregon.

The Auto Sales Co., of Portland, Ore., has taken the distribution of the Ace truck for Oregon and the Columbia river counties of Washington. The Ace is manufactured by the American Motor Truck Co., of Newark, O.

Seattle Demand Keeps Normal Height.

The problem of deliveries of cars and trucks seems to have changed little, for either better or worse, with automobile dealers in Seattle, Wash. One dealer, W. K. Chilcott, handling the Nash, stated that during the past few months he has been able to make between 80 and 90 per cent of scheduled deliveries, but among the merchandisers of the better known cars his position may be considered unique.

Many of the Seattle houses control the Eastern Washington territory and several are benefiting greatly from the uniform prosperity of the farmers in the Inland Empire. Many of the agriculturists in the Wenatchee country are for the first time in several year' really safe from bankruptcy. Truck dealers are benefiting especially; one new Seattle firm, the Cascade Motor Sales Co., handling the Gramm-Bernstein reporting a very good demand from the Yakima territory and also from Tacoma.

New lines in Seattle are the International Harvester truck and Ace car The Overland Model Four is among the most prominent of new models: the Jones Six and Maibohm are other newly arrived models of establish lines.

Three Races at Arizona Fair.

Three main events will make up the automobile racing program scheduled to take place, Nov. 8, at the Arizona State Fair, held at Phoenix, Ariz. The first race will be for 100 miles, class D, free to non-stock and all cars. First prize is $2,500; second, $1,500; and third, $1,000.

Only drivers and cars from Arizona, New Mexico and Texas may compete in the 25-mile class E non-stock race. First, second and third prizes are respectively $500, $300 and $200. Drivers must pay an entry fee of $25.

Event number three is a 10-mile "novelty race" for class E, non-stock cars, costing $1,200 and under, factory price. Prizes for the first three finishing positions are $250, $150 and $100.

Howard S. Welch Goes East.

Howard S. Welch, well known in San Francisco as former district sales manager of the California Motor Sales Co., of San Francisco, leaves for the East this month. He will join the export department of the Studebaker Corp., locating in New York City.

J. De Palma is Sales Manager.

John De Palma, brother of the famous Ralph, has been appointed sales manager for Dowling & Fisher, of Los Angeles, who several weeks ago opened their doors as agents for the ReVere car.

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New Grant Six on the Coast.

Word has been received by the Frank O. Renstrom Co., California distributors of the Grant car and truck, that J. A. Haskell, formerly of Chicago and Des Moines and for some time past connected with the sales department of the Grant Motor Car Corporation of Cleveland, has been made assistant general manager by Geo. S. Waite, general sales manager of the Grant Motor Car Corporation. In his new connection Mr. Haskell will devote his energies to detail and field work in the powerful sales and service organization established by the corporation.

An entirely new Grant Six is offered for 1920. Long, low and stylish, this model has a far wider power range, greater flexibility and more artistic appearance. Even the shape of the hood has been changed. The new Grant Six will soon be on exhibition at the salesrooms of the Frank O. Renstrom Co. in San Francisco and Los Angeles, and throughout the company's territory.

Auto-Rail Cars for Railroads.

The Pacific Auto-Rail Car Co., an Arizona corporation, has taken over the automobile manufacturing plant and will turn it into a large plant for making automobiles, automobile stages and auto-rail cars. The auto-rail cars are for use on railroads in passenger and freight traffic. The auto-rail car is the invention of S. D. Rogers, of Sacramento, and the new Sacramento firm has the exclusive contract to manufacture auto-rail cars to be sold in California, Oregon, Washington, Nevada and Arizona.

Transport Truck in Northwest.

Distribution of Transport trucks in the Pacific Northwest will be handled by a new Spokane, Wash., firm, the Northwest Transport Truck Co. The officers of the company are Glen S. Riley, president; H. E. Nordstrom, secretary-treasurer; H. M. Driscoll, August Johnson, and E. P. Olson. Sales rooms in Spokane have been opened at 510 Railroad Ave.

Buy Out Pioneer Motor Co.

George Peak and his associates have bought the interest of C. S. Howard in the Pioneer Motor Co., of San Francisco, handling Peerless cars and Republic trucks. With Peak are J. H. Leahy, secretary under the new regime; Albert Terry, son of a director in the Peerless Motor Truck Corp. and the General Electric Co., as vice-president; Herbert Manners, Robert Barrett, Fred Morton and Horace S. Hills.

The Pioneer Motor Co., whose organization will not be changed, was founded by H. O. Howard. In May, 1918, he sold his interest in the company to C. S. Howard, California Buick distributor, who appointed Peak general manager. The new firm will be incorporated for $250,000 and the men associated with Peak are both owners and employes in the business.

Hall Truck in Northern Cal.

Ernest E. Gerlinger, distributor of automotive products, with headquarters in San Francisco, has appointed the Pacific Motor Truck Sales Co., of the same city, distributor for Hall trucks in Northern California and Nevada. The new dealer has contracted to distribute 150 trucks the first year.

Lighting Law is a Real One.

California's new headlight law is being enforced in Los Angeles, anyway. On the first day of October more than ninety drivers of cars were brought into court. The average fine was $5. Arrests so far have fallen on those who made absolutely no attempt to comply with the new law.

Junge Takes Two Lines.

August Junge, of the Diamond T Truck Sales Agency of Oregon, distributing Diamond T trucks in the Oregon territory, has organized a separate corporation, the Rex Motor Co. of Portland, Ore., which has taken the agency for the Traffic truck and the Jones Six.

Denby Branch in Portland.

F. W. Warrington, service manager of the Denby Motor Truck Co., of Detroit, has opened a factory branch for the Denby in Portland, Ore. This branch will be the distributing point for the Pacific Northwest under direct supervision of R. J. Monroe, Western representative of the company.

New Home for Oakland Agent.

The Willamette-Oakland Co., of Portland, Ore., has completed arrangements for immediate construction for them on a lease of a new building in main local automobile row. The site is 90x100, at Broadway and Flanders Sts. The building will cost $30,000 and be ready January 1.

Add Case Lines for Southland.

Expanding their business and their energies with the taking on of agency for the Case car in Los Angeles and Orange Counties and for the products of the J. I. Case Co., Spencer & Morris, already well known in Los Angeles as dealers for the Selden truck, have re-incorporated as Spencer, Morris & Mang. All the members of the firm are from Buffalo, N. Y., where they are well known as successful and reliable business men.

TO URGE UNIFORM RULES FOR TRAFFIC

National Traffic Officers' Convention in Seattle Will Be Asked to Indorse Motor Laws of California.

Uniformity of traffic regulations, especially in the fundamentals, throughout the United States will be urged at the annual meeting of the National Traffic Officers' Convention, to be held in Seattle, Wash., October 20-22. San Francisco, Oakland, Los Angeles and other large Coast cities will send representatives.

The general highway traffic regulations to be discussed will be those sent out by the Council of National Defense through its Highways Transport Committee. Many municipalities have already approved of these rules and adopted them.

Members of the Association, it is reported, will also be asked to indorse the California motor vehicle act as the basis for uniform traffic regulations throughout the country. Daniel A. Sylvester, of San Francisco, the Association's president, will lead the fight for endorsement. The principal feature of the California law is one allowing 35 miles an hour speed limit on unobstructed highways.

Goodyear Men Help Fight Fires.

A forest fire of more than ordinary stubbornness recently played havoc with the famous redwood park of California. The fire had been in progress for over 10 days and every effort was exerted to prevent its spread to the renowned big tree groves. When the first alarm was sent out by the park officials the transcontinental truck train of The Goodyear Tire & Rubber Co. of Akron, Ohio, was in San Jose, having just come across the continent with the United States Army truck train. One of the big pneumatic-tired freighters was immediately rushed to the scene with men and supplies, making the trip in less than two hours and a half. The crew, consisting of Howard Temple and Howard Shoulter, both of Akron, Ohio, volunteered their services to Warden Dool, and both the men and the trucks worked hard to subdue the flames.

Stronghold Tires in Northwest.

Pacific Northwest distribution of Stronghold tires will be handled by M. Seller & Co., of Portland, Ore. The deal was completed through Stewart Slosson, of San Francisco, Pacific Coast manager for the Rubber Products Co., of Akron, O., manufacturer of Stronghold tires.

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Automotive Engineers Assist Government

The combined engineering talent of the automotive industries of the United States will in the future co-operate with the government in the development of new and improved engines of warfare, a committee of automotive engineers sitting with the Technical Staff of the Ordnance Department in discussions concerning the design of all motor equipment material, particularly tanks, tractors, and caterpillar gun mounts of every description.

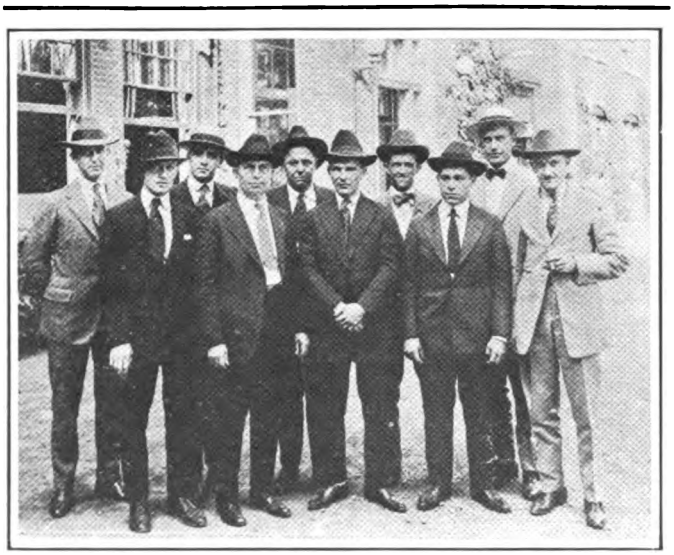
The new alignment of civilian and military experts is the result of the forehandedness and breadth of vision of General C. C. Williams, Chief of the Ordnance Department, who assumed initiative in the matter by requesting the Society of Automotive Engineers to appoint a board representing its various spheres of activity for active work with the war department.

Prior to the war, there was no organized co-operation between military and civilian experts, with a loss to the government of much valuable technical knowledge and experience. Under the new system, the efforts of the Ordnance Department will incorporate the fruit of the combined labors of the entire American automotive industry, and when the state of development of this industry is considered, as compared with that in other countries, there is much reassurance for the safety of the United States in this fact.

The first meeting of the newly organized board of civilian engineers was recently held at Washington, D.C., consisting of the following: H. W. Alden, Timken-Detroit Axle Co., chairman; W. G. Wall, National Motor Car & Vehicle Corp.; J. G. Vincent, Packard Motor Car Co.; Dent Parrett, Parrett Tractor Co.; C. F. Kettering, Delco Co.; George M. Dunham, former president of the S.A.E. and a prominent consulting engineer; Charles M. Manley, president of the S.A.E., and Coker F. Clarkson, manager of the S.A.E.

Members of the technical staff of the Ordnance Department who met with the civilian engineers, in addition to General C. C. Williams, Chief of Ordnance, were as follows: Colonel C. L. H. Ruggles, Col. L. B. Moody, and Col. J. B. Dilliard.

It is planned to hold meetings of the combined board every two months to go over new designs of the Ordnance Department and to submit suggestions for correction and improvement. The frequency of the meetings will insure the quick and constant transmission of the latest civilian engineering ideas to the government, and result in the development of war material that will be the last word both in basic design and detailed construction.



MIDWEST ENGINE CO. GROUP AT INDIANAPOLIS FACTORY.

"Wim, wigor and witality," as Lon R. Smith says, is typified in this group of the sales staff of the Utilitor division of the Midwest Engine Co., of Indianapolis. A recent convention was held at the factory which developed the three "w" stuff in behalf of the Midwest Utilitor. This new farm and garden tractor and general utility farm power machine is winning friends across the entire continent, according to these district representatives, and the Pacific Coast territory is abreast of others in the number of sales recorded.

Reading from left to right, are: (Front row) "Pete" Easton, Fred T. Johnson, E. M. King, S. V. Harding and Lon R. Smith. (Back row) W. M. Armour, Wm. H. Byington, R. C. Kerr, F. E. Wilson and Theo. M. Kingsbury.

California Highway Legislation Views

The Federal Highways Council, with headquarters in Washington, D. C., is not a Government institution but presumably is financed by manufacturers of things used in road construction, in an extensive propaganda for the Townsend national highway system plan. If this plan could be put in effect, the purchase of road materials and equipment would be greatly centralized, which of course would make selling simpler and more profitable to the producers. It would also facilitate nation-wide monopoly of roadside concessions, etc.

The organization is trying to have state units formed, and this has been done in three or four states, including California.

At its recent organization meeting, the California unit instructed its chairman, L. A. Nares, of Fresno, to study the Townsend bill and compare it with one introduced by Representative Osborne, of California. He now reports, favoring the latter in several respects, but asking members for their own views, and as to the advisability of holding another meeting.

"Motor West" learns that Chairman Nares has been supplied with data such as mentioned in these columns in the last issue, showing that neither bill would be likely to be acceptable in any state owing to the price asked in return for expenditure of federal funds—the relinquishment of practically entire main highway systems—and outlining a plan developed by eminent engineers and others on the Coast, to attain the same expenditure and commercial development without such ceding of land by states in which, already, from 50 to 90 per cent of their area is federally monopolized. It is held that such federal monopoly is dangerous to state individuality and a hindrance to economic progress.

Radical Change in Tax on Parts, Etc.

Double taxation is obviated by Treasury Decision No. 2915, issued by the Revenue Bureau, affecting manufacturers of tires, inner tubes, parts and accessories, and manufacturers of automobiles purchasing these articles. Such manufacturers may now buy these articles, and resell them to other manufacturers, tax free. The tax is paid to the Government by the manufacturer who sells or resells them to one who is not an automobile or tire or tire parts and tire accessories manufacturer. A new form of certificate, applicable to each purchase or to purchases made within the period of a month, is provided. There is no tax exemption when the article is sold by its maker to, say, a dealer or distributor, who in turn resells it to an automobile or parts manufacturer. In such cases the tax is still upon the maker of the article.

Join the Ship-by-Truck Movement.

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Activities of the California Highway Commission

The California Highway Commission, in response to a numerously signed petition by residents of Cornell, Los Angeles County, asking that the so-called Oxnard-Capistrano road be located in a manner different from that proposed along the coast through the Malibu Ranch, has directed the Highway Engineer to cause a reconnaissance of the route proposed by these petitioners together with a report and an estimate of the cost, so that a comparison may be made of the merits of the two routes.

Along the convict-constructed highway in Mendocino County, between Arnold and Cummings, four bridges are needed which the Mendocino County authorities request the California Highway Commission to construct, agreeing to pay for the same. The Commission will proceed at once with the designing of these bridges; the amount to be paid by the county therefor to be determined after estimates of costs have been made.

At a recent meeting the Commission received the reports of its highway engineers of possible routes for the proposed highway between Verdi and Truckee, and after due deliberation the Commission decided to adopt the so-called Dog Valley route, it appearing that said route is the most direct and practicable between the points named. Accordingly the Commission directed the Highway Engineer to proceed with the surveys, estimates and report for the laying out and construction of this State highway.

The McKissick Cattle Co., of Reno, Nev., and residents of Lassen County, petitioned the Commission for a change of route of the lateral from Milford south and east. The Commission has replied that the location of this road, already made by the Commission's engineers, is deemed the best for the larger interests of both Lassen County and the State; and, therefore, denied the petition.

National Bill Against Automobile Theft

Representative Dyer, of Missouri, has introduced a bill in Congress providing for fine not exceeding $5,000, or imprisonment up to three years, or both, for theft of any motor vehicles not propelled on rails, and applicable in any district "in or through which such motor vehicle has been transported or removed by such offenders." This would hinder stealing in one state and selling in another.

The law would especially protect owners of low-priced automobiles, which are preferred by thieves because more salable. It would also tend to lower insurance rates on the cheaper machines.

Representative Dyer says that in 1918, in 17 cities in the Midwest and West, 22,273 automobiles were reported stolen, Detroit leading with 2,637, Kansas City leading in percentage not recovered, 46 per cent, with St. Louis second, with 40 per cent lost absolutely. The total number of automobiles in use in the country is set at 6,500,000 and the value at $7,800,000. In 1918, thefts and recoveries in the 17 cities were:

	Stolen.	Recov.		Stolen.	Recov.
Chicago	2,611	1,954	Oakland	895	860
St. Louis	2,241	1,354	Seattle	1,451	1,376
Kansas City	1,144	606	Portland	1,088	990
Denver	901	627	Salt Lake City	797	790
Omaha	1,089	669	Detroit	2,637	1,834
Columbus, O.	451	352	Indianapolis	404	—
Cincinnati	348	201	Oklahoma City	571	484
San Francisco	1,122	1,082	Cleveland	2,076	1,816
Los Angeles	1,629	1,499			

Join the Ship-by-Truck Movement.

Calendar of Coming Events

Oct. 19—Bakersfield, Cal., Kern County Fair Dirt-Track Races; Paul Derkum, Mgr.

Oct. 20-22—Annual Meeting National Traffic Officers' Convention, Seattle, Wash.

Nov. 27—Ascot Park, Los Angeles, Cal., Thanksgiving Day Race.

Dec. 29—Ascot Park Race.

Jan. 3-10, 1920—New York National Automobile Shows (Passenger Cars and Trucks).

Jan. 24-31—Chicago National Automobile Show.

Feb. 21-28—Fourth Annual Pacific Automobile Show, Auditorium, San Francisco, Cal.

Feb. 22—Beverly Hills Speedway Opening Event, Los Angeles, Cal.

Gaston Chevrolet Sets New American Record

Gaston Chevrolet won at Sheepshead Bay, Long Island, in the 150-mile race staged there on Sept. 20. He incidentally set a new American record, breaking the record Ralph Mulford hung up at Chicago in June, 1917. Chevrolet's time was 1 hour 22 minutes, 34 1-5 seconds; Mulford's, 1 hour, 26 minutes, 14 seconds. For the first one hundred miles the race was between the Chevrolet brothers, Gaston and Louis, with Gaston always leading. Louis went out in the 110th mile with his car in flames and receiving slight burns himself. Joe Boyer finished second; Ira Vail third. Thirteen cars started. Dave Lewis grabbed an early lead but a cracked cylinder put his car out after 12 miles.

STATEMENT OF THE OWNERSHIP, MANAGEMENT, CIRCULATION, ETC., REQUIRED BY THE ACT OF CONGRESS OF AUGUST 24TH, 1912

of MOTOR WEST, published semi-monthly at Los Angeles, California, for October 1, 1919.

STATE OF CALIFORNIA, } ss.
County of Los Angeles. }

Before me, a notary public, in and for the State and county aforesaid, personally appeared Geo. M. Schell, who, having been duly sworn according to law, deposes and says that he is the editor of the MOTOR WEST and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management (and if a daily paper, the circulation), etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, embodied in section 443, Postal Laws and Regulations, printed on the reverse of this form, to-wit:

1. That the names and addresses of the publisher, editor, managing editor, and business managers are:

Name of—	Post Office Address—
Publisher, Motor West Publishing Co., Inc.	911 Marsh-Strong Bldg., Los Angeles, Cal.
Editor, Geo. M. Schell	Venice, Cal.
Managing Editor, same	Same
Business Manager, same	Same

2. That the owners are: (Give names and addresses of individual owners, or, if a corporation, give its name and the names and addresses of stockholders owning or holding 1 per cent or more of the total amount of stock.)

Motor West Publishing Co., Inc.	911 Marsh-Strong Bldg., Los Angeles, Cal.
Geo. M. Schell	Venice, Cal.
F. Ed. Spooner	Detroit, Mich.
Geo. W. Schell	Venice, Cal.

3. That the known bondholders, mortgagees, and other security holders owning or holding 1 per cent or more of total amount of bonds, mortgages, or other securities are: (If there are none, so state.) None.

4. That the two paragraphs next above, giving the names of the owners, stockholders, and security holders, if any, contain not only the list of stockholders and security holders as they appear upon the books of the company but also in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting, is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner; and this affiant has no reason to believe that any other person, association, or corporation has any interest direct or indirect in the said stock, bonds, or other securities than as so stated by him.

5. That the average number of copies of each issue of this publication sold or distributed through the mails or otherwise, to paid subscribers during the six months preceding the date shown above is..... (This information is required from daily publications only).

GEO. M. SCHELL.

Sworn and subscribed before me this 1st day of October, 1919.

W. A. JENKINS, N. P.

My Commission expires Jan. 16, 1922.

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Motor West
THE MOTORING AUTHORITY OF THE PACIFIC COAST

Established 1907

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OCTOBER 15, 1919

Townsend Bill Will Fail—See Why on Page 29

A REPRINT of this editorial will be sent to every member of Congress. The purpose is to have the Townsend bill, proposing a national highway system, withdrawn, and a bill substituted which will hasten, instead of pitifully delay, highway construction and maintenance with national funds on a truly national plan and scale.

This is not an attack upon the character or motives of Senator Townsend, who has declared himself open to suggestions, and who says he desires a plan for a nation-wide system of inter-state highways satisfactory to nationally-thinking minds without "preconceived notions"—his own words.

This is an attack upon the Townsend plan; an expose of its character; a relation of facts which will speak for themselves.

The principal fact is that the price the Townsend plan asks of states, in return for the expenditure of their common, federal funds, is that they cede to the United States, to be absolutely controlled by a group of men in Washington, D. C., practically their entire main highway rights of way, plus unlimited other land which, by the Townsend bill, would be taken even without being ceded, by "customary federal procedure." City streets would be taken!

The Townsend bill provides that the proposed federal highway commission shall recognize acceptance of the plan by state legislatures, or by state governors within a stated period despite legislatures.

With knowledge of the consequences, it is unthinkable that any legislature, or any governor, would dare accept the plan, even if basic state laws would permit. It is apparent that public opinion in every state would compel the abrogation of such action, if any legislature or governor dared take it.

The 2-to-5 per cent provision in the Townsend bill, if put into effect, undoubtedly would be used to the 5 per cent limit. Instead of absorbing into the national system merely enough land to form inter-state "connections"—a misleading statement which has been given prominence in much propaganda "news" sent to gullible newspapers from Washington, principally by the so-called Federal Highway Council—operation of this provision would absorb practically the entire main highway system of every state.

The bill would also authorize the federal commission to absorb, without consent of states or private owners, unlimited additional lands; and streets would be absorbed.

The bill provides that states shall supply (and of course pay) police, but clearly these police, and citizens' privileges plausibly mentioned in the bill, would, by the unmistakable terms of the bill, be entirely subservient to rules and regulations to be "prescribed and promulgated" by the federal commission.

There is no limit, in the bill, to the rules and regulations which the federal commission could prescribe, governing commercial, social and all other activities except war emergency activities, on these highways.

The land comprising such rights of way (in California, for example, 3750 miles of land at least 66 feet wide, plus unlimited other land which the commission might desire and take) would not be state land. The great highway arteries would be United States land, absolutely ruled and regulated by a group of employes in Washington, D. C., through an organization of federal employes necessarily practically duplicating, at great expense to the people, existing state organizations needed for highway purposes even with the main highways in federal control.

In brief, the people of states would cease to be self-governing, because practically every function of their daily lives, vitally and intimately affected upon the main highways, would be subject to quite possibly arrogant rules and regulations, "prescribed and promulgated" by the national government, personified by "a group of men wearing trousers" in far-off Washington, D. C. Regulations deemed necessary by states might or might not be adopted by these gentlemen in Washington. On the other hand they might make rulings which would be "startling and inexplicable," as the San Francisco Chamber of Commerce found a recent railroad administration ruling to be.

The federal commission would be authorized to grant monopoly of the sale of gasoline, groceries—anything, everything—on the proposed federal highways; would be authorized to prevent open business competition between merchants and others occupying premises facing such highways; could grant monopoly of one or all commodities and commercial privileges to one or more persons, for small sections of the federal highway system or for every mile of such system in the entire United States.

Visualize the main path through your personal property, and as much more of that property as a group of men in Washington, D. C., might desire, under the absolute ownership of Washington and regulation of those men.

Visualize the main streets of your city, plus unlimited other land desired by this group of men, so owned and controlled, including, as would be quite possible by the terms of this law if passed and operative, the exclusion of all sales of gasoline, garage service, groceries, etc., etc., from stores on such streets except such as could be assigned, as monopoly, by the group of men in Washington, D. C., to even one single corporation or individual.

Widen your wisdom of this picture to the limits of the county, the state, the entire United States. The picture is strictly according to the provisions of the Townsend bill. Is it a pretty picture?

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No matter what the author of a proposed law may state to be his personal intent. No matter what plausible statements and arguments may be made by the Federal Highway Council, so-called, the chairman of which is president of the Highways Industries Association, which would much prefer to sell highway materials and machinery to a group of men in Washington, D.C., than to have to solicit business in many localities. No matter what statements are made—a law means what it says, and the law proposed in the Townsend bill, in unmistakable effect, is all that we have pictured and much more; so much more that if the bill were to become a law it would be made inoperative by outraged public opinion.

Public opinion is a slow, sometimes sluggish product. The average man does not closely study measures framed by those whom he and his fellows elect to think for him. But the average man is the court of final decision, and his decision will be that states shall not be eliminated; that government of the entire main arteries of human intercourse in the states shall not pass into the hands of a group of quite possibly incompetent, arrogant employes in Washington, D.C., as the price of having the people's common, federal funds expended to produce and maintain a country-wide system of adequate roads.

Even if the public were willing to so eliminate state and regional control of community every-day life, it would not be humanly possible for a group of men in Washington, D.C.—even super-men—even with a gigantic, widely distributed force of agents, duplicating existing heavy expenses without adding to or eliminating existing state and regional efficiency—it would not be possible for these men to administer this huge undertaking, not to mention that other vast work, federal aid for other than national highways.

What happened during the war? Thousands of the best citizens in the nation, and millions of other citizens, cooperated to make possible results which hundreds of thousands of Government employes, in the War Department and other departments, swathed in Government red tape methods, could not have accomplished.

Similar co-operation, in principle, is necessary if this country is to have, in a space of time commensurate with the need of development, a nationally co-ordinated system of roads—motor truck roads.

Co-operation of many minds toward a concentrated plan, involving the maximum of available suggestion and the systematic elimination of unessentials, is necessary and is easily possible.

Such co-ordination of many minds is needed in any plan of huge scope. It is impossible for a mere group of men to cope with the contemplated undertaking successfully.

This is illustrated in a number of large and small phases of the very imperfect Townsend plan. Senator Townsend's idea of having a federal commission composed of only three men, and of appropriating only $425,000,000 in the course of a number of years, for a project which any highway engineer of ordinary familiarity with the country's mileage will admit requires approximately $2,000,000,000, is an absurdity which immediately shakes the confidence of anyone, even without further analysis, in the feasibility of any idea in his bill for which he undertakes to prescribe a method. The announcement that he proposes to increase the commission to five, and the appropriation to $1,000,000,000, is a patch upon an instrument which is inherently incompetent, the only desirable feature of which, as we believe the following will show, is the end which it ostensibly is intended to attain—a nation-wide system of adequate roads.

The present Townsend bill—arguments for it are that the plan is "broad and comprehensive," that it "would eliminate petty politics" and narrow views, that it would take from states only 2 to 5 per cent of their total highway mileage (not mentioning the great percentage it would take of main, arterial highways), that it would merely need sufficient rights of way to "make connections" between states, the strongly implied suggestion that states would in effect be getting vast sums of money for nothing, instead of actually getting, at a very high price, the use of our common, federal funds into which western states, particularly, pay much more per capita than is paid by eastern states—such and other arguments advanced have been plausible enough to be printed by gullible newspaper men who do not look below the surface of good copy which comes free, with a Washington date line, from the "Federal" Highway Council (which has no connection whatever with the Government) and other organizations which are either interested through a short-sighted business-getting spirit or through misinformation.

But such arguments are not good arguments. They are general plausibilities. They have even been sent as replies to very definite inquiries, some directed to Senator Townsend himself.

In this connection, we mention the journey being made through the country by the head of the so-called Federal Highway Council, to address chambers of commerce and other bodies in behalf of the Townsend bill. One St. Louis newspaper heading ignorantly described him as the "federal highway head," and the "Federal" Highway Council sent broadcast a reprint of this misrepresentation. The fact that this man is also the head of the Highways Industries Association, taken in conjunction with the glaring facts enumerated here, forms a very strong reason why the present Townsend bill should be withdrawn.

Criticism should be constructive. "Motor West" is interested because where good roads are, there are more automobiles. The real West, and especially the Pacific Coast, can produce much more prolifically of everything that grows and makes wealth and comfort, for the whole world, when there are more good roads. "Motor West" therefore is in the national legislative arena as spokesman for an area comprising approximately one-third of the United States.

The criticisms which have been made, and the constructive plan which follows, are based upon what has been printed in "Western Highways Builder," which at first favored the Townsend plan because it promised more mileage to western states than the present federal aid; which hailed the Osborne bill as a further improvement because of its clearness and larger appropriations; which opened its columns to writers who told of inconveniences, and worse, due to federal red tape; who showed in cold figures what the Townsend or any similar plan would do toward absorbing the entire main highway systems of states, plus unlimited additional land; who showed how the context of the Townsend bill would enable the proposed federal highway commission to grant huge monopolies to favored persons; how state commerce would suffer

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if a few large manufacturers of road materials and machinery could deal solely with a group of men in Washington. One writer, in a masterly presentation, outlined what appears to be the most logical and an entirely feasible substitute for the Townsend plan.

Among these writers are Capt. Frank W. Harris, of Olympia, Wash., of large experience as an engineer; George F. Cotterill, former mayor of Seattle, also state senator in the state of Washington, also twice sent abroad by the President of the United States, until recently chief engineer of the Washington state highway department and now engaged on a great project; Wm. J. Hall, commissioner of public works of the state of Idaho; D. S. McCalman, highway superintendent of the state of Wyoming; F. A. Fenn, assistant forester of District No. 1, Montana; Thomas Maddock, state engineer, Arizona, and Wisner Gillette Scott, executive secretary of the Inyo Good Road Club, and eminently known on the Pacific Coast as a prime mover in highway plans of magnitude.

To Mr. Scott is due the following plan, as a feature of which he urged a federal highway department, having a secretary and assistant secretary, as well as a commission of nine members, appointed by the President with reference to geographical distribution as well as their personal qualifications. He said there should be on the commission men varied as to experience — that not all of them should be engineers. However, "Motor West" gives chief prominence to the features of his plan which could be worked by whatever nature or size of federal body in Washington; which would form a most desirable substitute for objectionable, unworkable features in the Townsend plan.

Mr. Scott's article makes very plain the fact that no mere group of men would be equal to the task of mapping an adequate main highway system for this great country, even with the aid of agents and state highway departments, within a practicable period of time. Mapping alone would be a stupendous task. Specifications, including a multiplicity of details peculiar to each region, state, county and locality, would mean an even more stupendous undertaking. Mr. Scott shows how the thing should be done:

1—By a federal appropriation sufficient to cover the salaries and expenses of the proposed federal officials, including cost of their participation in certain phases of the following functions.

2—By proclamations of state governors, calling upon counties to hold conventions, each county to elect three delegates to a state conference, at which the desires of counties would be recorded by the delegates, in conjunction with advisory representatives of the state highway department, state highway commission, Departments of War, Agriculture, Commerce, the Interior, the Post Office Department and the Geological Survey. Results of each state conference to be sent to the state governor, he to transmit the same after approval, to the federal highway body in Washington.

3—The federal highway body to appoint a time and place in each regional area for a regional highway congress, to be attended by nine delegates elected at each state conference, and also, again in advisory capacity, by representatives of the state and federal departments already mentioned. Mr. Scott designates ten regional areas, each comprising certain states.

4—Each regional congress to combine in one harmonious unit the systems of the states comprised in that regional area, and to transmit the result, including specifications and estimates, to the federal body in Washington, which, except as to appointing dates and places for the congresses, and as to administering current federal aid work (which, presumably, would have been transferred to it) practically would not begin to function up to this time.

5—Those delegated by regional congresses to send the data to the federal body in Washington, D.C., which, as stated, would not begin to function up to this time except as to administering federal aid work then, and perhaps later, in charge of the Department of Agriculture.

6—The Federal body in Washington to co-ordinate the maps of the various great regions, by personal and mail contact with the various state highway departments; to make final decisions with high regard for the recorded wishes of the regional conferences; to use state highway departments for surveys, construction and maintenance instead of using an additional, widespread, expensive federal force; to supervise construction and maintenance virtually in the same manner (with a minimum of red tape and delay) as is done under the federal aid plan.

7—Ownership of rights of way to remain vested in the states. In other words, to get the use of the people's common, federal funds, their own money, without asking them to give up, in addition, ownership of vitally valuable property, of which, as stated, most of the western states even now control and can tax only as much as 50 per cent—one, Nevada, as little as 10 per cent—the remainder having been withheld by Washington, D.C., when the western states were formed, under an unwritten agreement that as soon as practicable the withheld land would be ceded by the United States to the respective states—an unwritten promise that never has been fulfilled, greatly to the detriment of development of the western states.

8—Congress to make appropriations to fit the co-ordinated program; counties to pay the mileage and subsistence expenses of their delegates to state conventions; states to similarly compensate delegates and state officials to the regional congresses; federal officials to be financed federally.

Such a plan would produce what is wanted by the people—for completion within a reasonable period—a truly national system of highways, nationally conceived, planned, built, maintained and operated—NOT a system of national highways, of federal highways, not a system of infiltration of bureaucratic arrogance, red tape and incompetence into the heart of every one of the country's millions of widely variant communities.

It may be said that the handling of mails by Washington, D.C., is competent and satisfactory. To a degree, yes. Yet there are large cities which are arbitrarily stunted in development because a group of Government employes, wearing out trousers on swivel chairs in Washington, D.C., do not understand and do not care to understand the needs of those cities.

Railways? Disregarding entirely the country's experience with federal railway management, it is a fact that railways always have been, to a large degree, public utilities of semi-national character; operated, however, in competition with each other and with other means of transportation; inherently solicitous toward the public; not in position, as ownership of states' main highway rights of way by Washington, D.C., and control by a

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group of men in that cloud of official atmosphere, would be, to monopolize business on the highways; to tell every human being how to head in and back out of such highways. That is what any plan like the present Townsend plan contemplates.

Study the bill and be convinced. And communicate with the representatives of your state in the national capital.

What the people SAY they want, Congress will give them. Meantime, the people will view with apprehension the fact that "who controls our economic arteries controls our daily lives."

MR. WILLIAMS IN LOS ANGELES DOES NOT ANSWER QUESTIONS—

Mr. S. M. Williams, chairman of the Federal Highway Council and president of the Highways Industries Association, opened a speech at a luncheon given him in Los Angeles by the Chamber of Commerce and the Automobile Club of Southern California, last Monday, October 13, with a "defense" against criticisms of the Townsend bill and questions as to his position. He spoke on the basis of a communication to a newspaper, which had handed it to him instead of printing it. **He admitted that his expenses in touring the country were being paid by his associates.**

He declared he never had claimed the Federal Highway Council to be a federal organization. **He did not mention the fact that his propaganda headquarters in Washington had sent broadcast a reprint of a St. Louis Globe-Democrat article in which he was called the "Federal Highway" head.**

He made it **appear** that he was answering points against the Townsend or any similar plan which would cause states to relinquish their main highways and many of their streets to Washington, D. C., ownership, but he did **not** cover questions like the following, which would have been asked him had not the meeting been abruptly closed without discussion:

The Townsend bill appropriation, $425,000,000, engineering figures show, would provide a mere five-year start on a thirty-year program. Engineering figures show that an adequate nation-wide network of good roads would total 40,000 to 50,000 miles and would require, at present costs, approximately two billion dollars. The Townsend offer therefore is inadequate, compared with the great price it asks of states in return.

Section 1 and 9 of the Townsend bill, providing for absolute ownership by Washington, D. C., of from 2 to 5 per cent of each state's highways, would, on the 5 per cent basis, take from California nearly 4000 miles—practically its entire main highway rights of way.

Section 5 means that main streets of cities now of less than 5000 population, but which may reach populations of 500,000, will cease to belong to those cities—shall forever be the United States of America, under absolute control of these men in Washington.

Section 9, lines 15 to 19, gives those three men power to take away as much more land, for any reason whatever, as they may desire.

Section 5, line 25; section 11, section 14 and section 15 would give these men absolute control over police to be furnished and paid by the state, not only on country highways but on city streets; would give them power to prevent any business men of the state from operating garages, hotels, candy stores—any kind of business—on such roads and streets; would enable them to give to one man or one corporation absolute monopoly in any line of business on every inch of such roads and streets; would enable them to ignore state business men, factories, etc., in every state and place all orders for cement and other materials, road machinery, etc., with favored individuals, right there in Washington. It is plain why certain manufacturers would be glad to so be free from having to advertise and otherwise solicit business in individual states.

Are you a business man in your state? Do you grasp the significance of all this, reader? Or do you agree with the statement made by Mr. Williams, head of the "Federal" Highway Council and of the association of material and machinery manufacturers, that utterances such as the above might well have emanated "from Milwaukee"?

After the meeting the editor of "Motor West" asked Mr. Williams if he had given due consideration to the fact that the said utterances are practically those of the heads of the highway departments of several western states. He did not answer.

Mr. Williams had also criticized the fact that one of the writers who had criticized the Townsend bill was an employe of the Department of Agriculture. According to Mr. Williams, then, a federal employe ceases to be a free citizen of the United States. Quite possibly the federal employes who would be employed, according to the Townsend plan, to "regulate" the behavior of the citizens of the states on roads and streets in their midst, but owned by Washington, D. C., would be so loyal to their masters as not to open their mouths except to carry out the rules and regulations "prescribed and promulgated" by those masters. Mr. F. A. Fenn, assistant district forester, state of Montana, look out! Your head is in danger. You are a federal employe. You have dared exercise the rights of an ordinary citizen by expressing views on a public matter.

Roads and Trucks versus Forest Fires

THERE is little comfort in the arrest of five men, said to have admitted being I.W.W. members, in connection with the fire which destroyed about 150,000 acres of trees in the Angeles National Forest near Los Angeles, which cost $50,000 of national funds to fight, and which caused terror and great loss to citizens.

Lack of roads in national forests is one of the bad features of the fact that when Western states were formed, Washington, D. C., withheld from 50 to 90 per cent of their area in most cases. Without roads, fire-fighting is almost useless. Many million dollars' worth of timber and other property have been wasted in this way. Forest Service officials say that, with roads, motor trucks could quickly have carried men and equipment to threatened points during the recent Angeles forest fire in time to save untold natural wealth. Pack animals and the backs of human beings were poor substitutes. For some Washington, D.C., reason, which cannot be a good one, in California only 20 per cent of federal funds for forest roads is said to have been allotted to the southern part of the state, where $100,000,000 worth of ranch and home property is in constant peril. For this and to develop routes for motorists, $2,000,000 is needed for roads in Angeles forest. Only $21,000 has been appropriated so far from federal funds. The total available from national, state, county and municipal funds is $417,000.

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California Dealers Promote Truck Tours

San Francisco Puts on a Two-Weeks' Jaunt to Los Angeles, and Latter City Covers South in Week

THE motor truck made its demand for a place in the field of long-haul transportation with an emphasis never heard before during the period embraced in the last week of September and the first two weeks of October. The gasoline commercial vehicle long ago demonstrated its utility as the hauling carrier for short distances; therefore the two recent distinctly separate motor truck tours staged by the dealers of San Francisco and Los Angeles will loom large in the history that will some day be written of the rise of long-distance motor truck transportation on the Pacific Coast.

On September 25th the first California Highway Motor Truck Train left San Francisco, traveled southward through the San Joaquin Valley at a leisurely rate; arrived in Los Angeles, Saturday, Oct. 4; and made what was practically a non-stop return run, up the Coast route, reaching San Francisco, Thursday, Oct. 9. Their route took them over about 1,000 miles of paved road.

Acting as a relay, as it might be phrased, Los Angeles truck dealers took over the mission of long-haul demonstration for the southern part of the state. Simultaneous with the departure northward and homeward of the San Francisco motor truck men, the Southern California Motor Truck Train left Los Angeles, Monday morning, Oct. 6. They visited nearly thirty cities and towns within a 65-mile radius of Los Angeles, were gone five days and returned on Oct. 11.

Back of both of these events lies the impetus given by discussion of the merits of the motor truck for long hauling, the "ship-by-truck" idea actively and intelligently supported by the Firestone Tire & Rubber Co., and the lessons and examples taught by the recent successful termination at San Francisco of the transcontinental Army Motor Transport caravan.

Both runs were tests and three valuable lessons were to be learned from them, which were: that distance is nothing when it is bridged by good roads; that motor truck construction has reached a point of excellence where it need not fear the long haul; and that the general public is interested in any attempt to solve one of the crying problems of the present day—efficient, rapid, economical transportation.

Motor truck runs in California might be considered a matter for national comparison, except for one thing, that being California's uniformly good roads contrasted with poor apology for highways found in many Eastern states. Only a few minor difficulties occurred during the runs; practically every truck entered was present at the controls within the scheduled time; and upon the return they

RETURN OF THE CALIFORNIA HIGHWAY MOTOR TRUCK TRAIN TO SAN FRANCISCO AFTER 1000-MILE TRIP.

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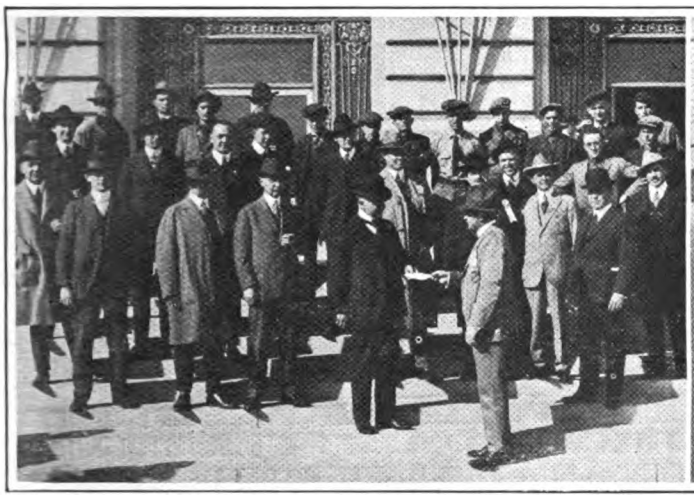
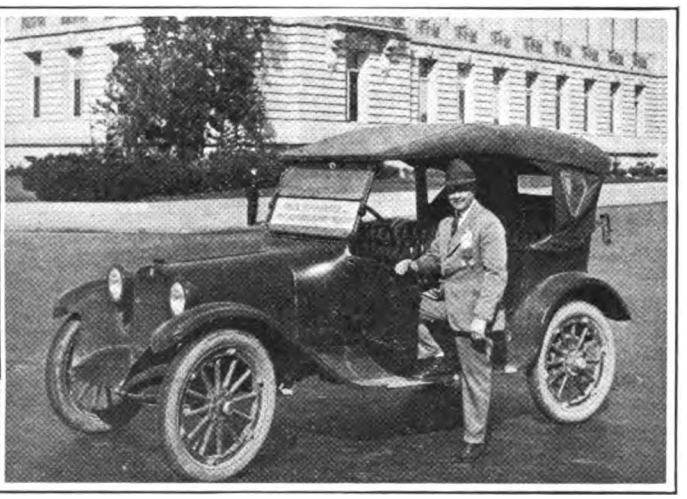


DELIVERING L. A. MAYOR'S MESSAGE TO S. F.'S MAYOR.



TRAIN COMMANDER F. C. FLICKINGER, S. F. FIRESTONE HEAD.

showed little indication of having traveled hundreds of miles.

According to F. C. Flickinger, head of the Firestone Tire & Rubber Co., of San Francisco, and the active motor train commander of the San Francisco-to-Los Angeles jaunt: "Our purpose in sending the First Highway Motor Train over more than 1,000 miles of highway was to show more clearly to the people, not only of California, but of the nation at large, what trucks are capable of doing where good roads exist, and thus aid the cause of good roads. This I believe we have been successful in doing."

South a Long- and Short-Haul Field.

The motor truck run staged by Los Angeles dealers was not so much in the nature of a long-distance haul. It rather showed the field built up by good roads within sixty-five miles of Los Angeles, a region filled with prosperous cities and farming and orchard districts, which the motor truck may serve by both short and long hauling. Only two trucks fell temporarily out of the steadily traveling Southern California unit. One re-charged a battery and re-adjusted some bearings; the other had its governor adjusted to permit higher speed.

Throughout all parts of California thousands of tons of fruit have rotted on the ground during this year and past years due to the fatal lack of freight cars to carry it to market. The motor truck has performed wonderfully to overcome these conditions, but the general public does not yet understand the extent of the motor truck's capabilities.

There was however no lack of public interest shown the trucks throughout the length of their travels. The truck train of fifteen trucks out from San Francisco stopped frequently in the San Joaquin Valley cities and towns and everywhere they found personal and general interest in the possibilities of motor freight transportation. The hearty reception at Los Angeles was merely the culmination of the enthusiasm shown at every stop along the route. At Stockton, Modesto, Fresno, Visalia and Porterville automobile dealers co-operated with city officials and civic organizations in making the time spent in their city enjoyable to the much-traveled visitors.

Everywhere the local motor truck merchandising craft extended a hearty welcome and at night stops at controls mass meetings were held in public squares. The inseparable combination of motor trucks and good roads was never lost sight of and motion pictures were shown of the recent transcontinental government convoy trip and how ship-by-truck is working out in the East. Good road benefits were thus strongly emphasized. Where good roads exist prosperity and per capita wealth are unusually high—a condition brought about in large measure by motor truck transportation.

The California Highway Motor Truck Train left San Francisco, Sept. 25. Mayor Rolph, of San Francisco, and city officials, bade it godspeed. Each of the fifteen trucks carried a load equal to its rated capacity to be delivered in Los Angeles, amounting to some 80,000 pounds for all. It was mustered under the auspices of the motor truck dealers of San Francisco and of the ship-by-truck bureau of the Firestone Tire & Rubber Co. Clifford Williams, E. A. Jones and Paul Nichols formed the managing committee and their combined energy had much to do with the success of the tour.

The following were the trucks making up the San Francisco-to-Los Angeles truck train, the distributors entering them, and the loads they carried:

Two-ton Garford, Garford Motor Truck Co.; Standard oil products.

One and a half ton Garford, Garford Motor Truck Co.; Pacific Coast paper.

One ton International, International Harvester Co.; farm implements.

Two-ton White, the White Co.; load of Firestone tires.

Ton and a half Maxwell, Western Motor Co.; Zellerbach Paper Co. products.

Three and a half ton Kissel, Western Motor Co.; Zellerbach Paper Co. products.

Two and a half ton Service, Peacock Motor Sales Co.; California cotton goods.

Four-ton Fageol, Butler-Veitch Co.; Fageol tractors.

Two-ton Federal, William L. Hughson Co.; farm machinery.

Three and a half ton Federal, William L. Hughson Co.; Fordson tractors and Amalie Oil Co. products.

Three and a half ton Mack, International Mack Co.; grain.

Seven and a half ton Mack, International Mack Co.; grain.

Two-ton Nash, Pacific National Motor Co.; flour.

Three-ton Packard, Earl C. Anthony Co.; Goodyear tires.

Three-ton Packard, Earl C. Anthony Co.; commissary truck.

On September 28 the motor truck train passed the night at Fresno; Wednesday and Thursday nights at Bakersfield; and Friday night at San Fernando. The running was on regular schedule, trucks stopping at controls and preserving the formation almost unbroken the whole journey. One truck threw a tire, that being about the only mishap. Some delays occurred in the larger cities due to the sluggish dispersal of the interested crowds as the cars left their controls.

Caravan Welcomed in Los Angeles.

On Saturday morning at San Fernando the truck train from the North was greeted by a reception committee composed of Los Angeles dealers: O. R. Fuller, Gilbert Woodill, Watt L. Moreland, J. A. Stoner, M. S. Bulkley, Hamlin Nerney, W. E. Bush and Harold L. Arnold, and Mayor Snyder, of Los Angeles. Entering the southern metropolis, the tenth day out from San Francisco, the train found itself as part of a parade, which included some of the 35 or 40 trucks which were to start on the Southern California run on Monday morning; some dozens of passenger automobiles; a band, etc. With open mufflers thundering a cannonade and the trucks adorned with banners and other insignia impressing on the public the ship-by-truck idea, the procession awed the populace and stopped traffic for a brief interval. At night a banquet was given in the train members' honor and motion pic-

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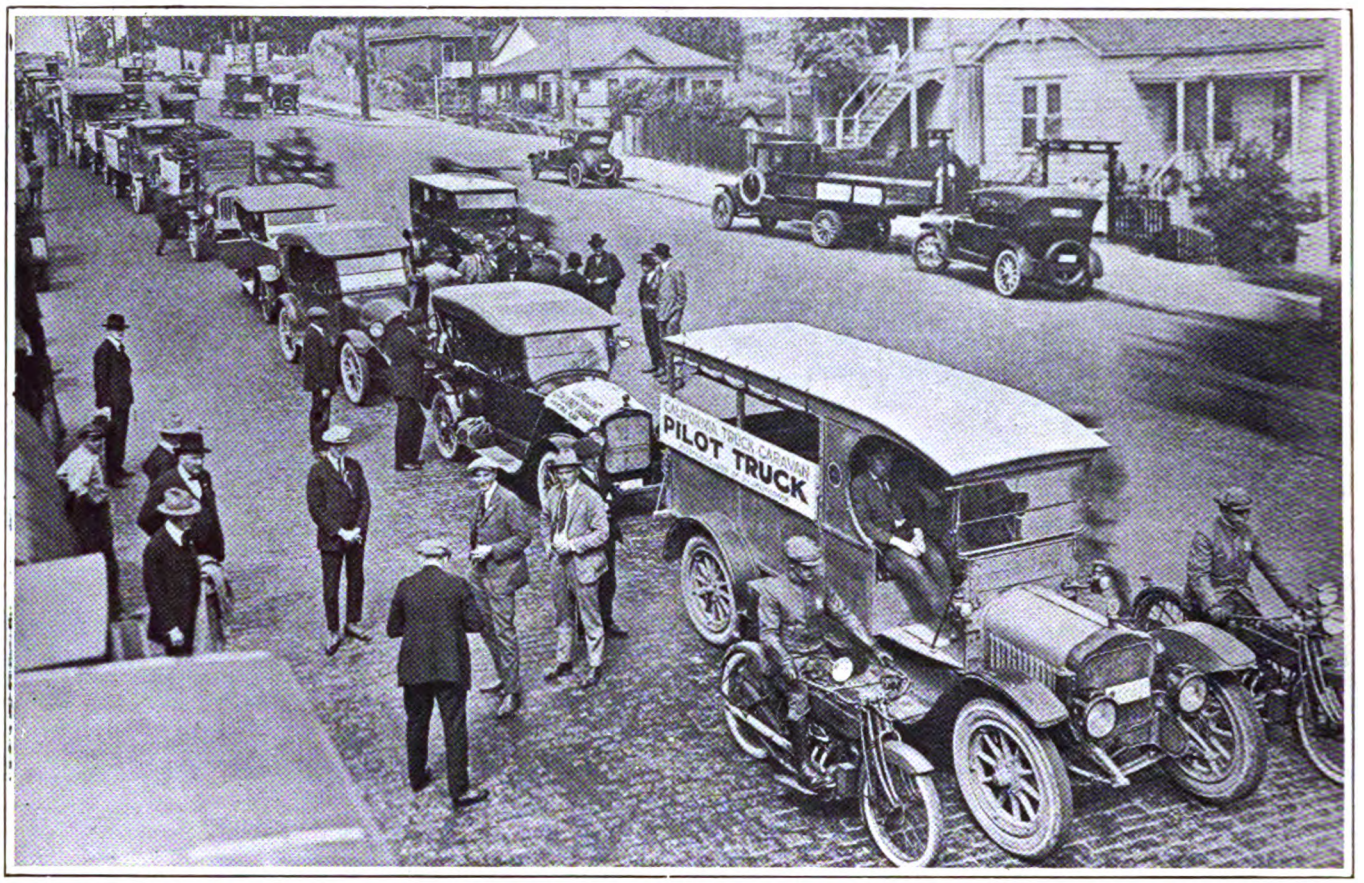

CALIFORNIA MOTOR TRUCK CARAVAN MAKING ITS OFFICIAL ENTRY INTO THE CITY OF LOS ANGELES.

tures were shown and speakers introduced at a great meeting held on Olive St.

Monday morning, Oct. 6, the California Motor Truck Train left Los Angeles bound north and homeward at the same hour that the Southern California caravan started o its own tour. The trucks now carried merchandise to be delivered in San Francisco, worth several hundred thousands of dollars.

Return Trip an Express Jaunt.

The return trip up the Coast route was practically a non-stop run, the idea being to ascertain the actual time taken to transport merchandise straight through from Los Angeles, the quickness and economy of trucks for making long hauls where roads are little short of ideal. The only stop were made for fuel, oil and meals. The actual running time was 51 hours, which compared with rail freight shipment shows a saving of nine days. In addition to time saved there is the saving in the usual heavy cost allowances made for breakage in handling. Railroad shipments involve six to eight separate handlings before reaching the consignee; shipping by truck the goods are placed on the truck at shipper's door and taken off at the consignee's receiving platform, making but two handlings.

Nearing San Francisco the caravan was greeted by a delegation composed of automobile enthusiasts, representatives of the San Francisco Motor Car Dealers' Association. Quite a number of dealers were found in San Jose, 50 miles from San Francisco, awaiting the travelers. City officials headed by the mayor greeted the train and Train Commander Flickinger delivered a message from Mayor Snyder to Mayor Rolph. The entry into San Francisco, Thursday morning, Oct. 9, was as dinful as was to be expected. Considering that a thousand miles of travel lay behind them in the past fourteen days the trucks, due to the fine roads and comparatively easy going, drew much comment on their clean appearance and easy handling. The trucks' return was given the importance it deserved as an epoch-marking event in motor truck transportation. There were several speakers, the most prominent being F. C. Flickinger, William H. Hughson and Robert Martland. Without doubt the first California Highway Motor Truck Train was a success. The chances of it becoming an annual event seem to be already under discussion.

Planned as a long-distance run for motor trucks the first Southern California Motor Truck Tour was not such a purely long-distance event as that out of San Francisco. The impetus given in the north was quickly taken up in Los Angeles. The operating committee consisting of A. C. Bushnell, R. D. Hartz, V. S. Beardsley and J. J. Canavan chose as the field of their mission for demonstrating the motor truck the richly productive territory lying within a 65-mile radius of Los Angeles and containing some of the best short-haul territory in the country. At the same hour as the northern caravan took up its homeward march the Southern California caravan left Los Angeles, Monday morning, Oct. 6. Thirty-seven motor trucks were included in the train, which was under the charge of A. N. Wayne. The personnel manning the trucks was some 70 men, while many local dealers accompanied their vehicles and Clifford A. Williams, come down with the northern caravan, joined that for Southern California.

Among the trucks represented were the Oldsmobile, Diamond T, Garford, Kissel, Clydesdale, Federal, Moreland, Vim, All-American, Autocar, Jumbo, Smith, Chevrolet Pierce-Arrow, Republic and Kimball. There were twenty-four entries, some dealers entering two or three trucks. Also accompanying were two Firestone-tired trucks that came across the continent with the Army truck train and a Goodyear-tired truck carrying a band.

Southern Truck Tour for General Good.

The purpose of the Southern California jaunt was purely educational, not commercial, and there was no sales talk nor exaltation of any particular make beyond the mild brand allowed by the banners and bunting on the trucks. Each truck carried a capacity load of merchandise to be delivered directly to merchants on the way, at no cost. One of the train commander's many duties was to use every precaution in the use of highways, bridges and other public property.

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THE easiest and quickest way to repair leaks in radiators, pumps, hose connections, etc., is with Johnson's Radiator Cement. It will stop leaks immediately without laying up the car—no mechanical experience required—all you have to do is remove the cap and pour the Radiator Cement in the radiator.

JOHNSON'S RADIATOR CEMENT

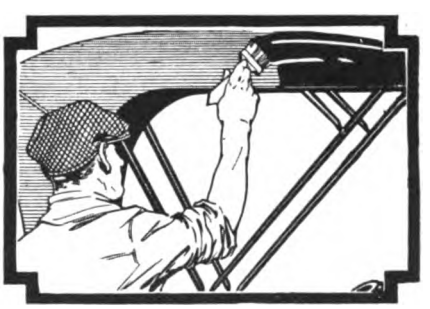
Contains nothing which can clog or coat the cooling system and is absolutely harmless in every respect. It blends perfectly with the water until it reaches the leaks. Just as soon as it comes in contact with the air it forms a hard, tough, pressure-resisting substance which is insoluble in water and consequently makes a permanent seal. No tool kit complete without a can of Johnson's Radiator Cement. Will ordinarily seal leaks in two to ten minutes. A half-pint is sufficient for the average car.

JOHNSON'S
CARBON REMOVER

A dose of Johnson's Carbon Remover, the engine laxative, will cure 80% of engine troubles. It will increase the power of your car—improve acceleration—stop that knock—quiet your motor—save your batteries—cut down your repair bills—and reduce your gas and oil consumption.

JOHNSON'S
HASTEE PATCH

This is the ideal repair for tubes, casings and rubber goods of all kinds. No time, labor or heat required. A patch can be applied in three minutes and it's so simple a child can use it. Gives equally good results on a pin hole puncture or on a large blowout. Conveniently put up in strips.



JOHNSON'S
BLACK-LAC

With this preparation you can make your gray, dusty top and side curtains look like new. Fine for mohair, leather or imitation leather. Johnson's Black-Lac is unequalled for blackening fenders, rims, hoods, lamps—and, in fact, all worn metal parts. Prevents rust and keeps your car in a high state of repair.

Write for Booklet on "Keeping Cars Young"—it's free.

S. C. JOHNSON & SON, Dept. M. W. 10, Racine, Wisconsin

For sale by all Hardware and Accessory Dealers and Garages

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MAYOR SNYDER OF L. A. GREETED ALL OF THE DRIVERS.

ALL VEHICLES CARRIED CAPACITY LOADS FOR DELIVERY.

Monday night the caravan spent at Long Beach, Tuesday night at Santa Ana and Wednesday night at Pomona, where the inhabitants had recovered enough breath after fighting the recent forest fires to tender the truck men a very cordial reception. At the Riverside Fair the day of their arrival, Thursday was made Motor Truck Day. Friday midday they were at San Bernardino, where the chamber of commerce, the directors of the National Orange Show and the local automobile men united to give a warm welcome. They stopped overnight Friday at Claremont and returned to Los Angeles Saturday, Oct. 11, after traveling five days and visiting some thirty of the more important towns near Los Angeles.

Strict rules governed the train and prevented all possibility of injustice. Any car unable to start at the appointed hour was not permitted to resume its drawn position for that day. A car not reaching the scheduled control within the appointed time would be obliged to withdraw from the train, unless in the train commander's judgment its re-instatement would not be prejudicial to the interests of the others. All trucks carried banners designed by the operating committee and approved by other entrants.

There was however a notable lack of mishaps to break the train's formation and every control was reached either on the exact scheduled minute or a little ahead of time.

Everywhere the train was favored with the interest of the town and countryside. Farm work stopped while the caravan wound its long length along of trucks carrying capacity loads that varied from drug store supplies to a colossus formed of baled hay.

Motor truck dealers of San Francisco and Los Angeles, working independently with the same object, believe that their effort to create successful highway motor transportation is little less important than the silver spike whose driving symbolized the completion of the first transcontinental railroad. They have driven the final spike in the track of a new method of transportation that will link to the outside world communities whose modest importance never allowed them to dream of such a benefit under the old-time system of transportation.

Whatever the result, the two recent California motor truck runs may be taken to represent a great event in the growth and expansion of motor truck freighting on the Pacific Coast.

Motor Truck "Movies" to Educate Mexicans

President Carranza is going into the motion picture business. He is planning to send "picture theatres on wheels," especially built motor trucks, all over Mexico to exhibit educational films.

A representative of Carranza recently arranged for the trucks and the educational films, and a great number of the pictures produced in the past two years under the supervision of Harry Levey, managing director of Universal's Industrial and Educational Departments, will be used in Mexico. The Mexican agent consulted with Mr. Levey concerning the specifications of the trucks.

Mr. Levey advised trucks patterned after the six "theatres on wheels" which the Bureau of Commercial Economics is now operating in the United States. Orders for ten such trucks were placed, and Carranza's emmisary told Mr. Levey that after the delivery of these ten, twenty more would be ordered.

One of these trucks can give an open air evening program at a country crossroad center far removed from the electric light plant of a city. A truck carries its own light plant, which, in addition to satisfying the appetite of the projection machine, can illuminate a ten acre field. The portable screen can be set up in twenty minutes. The reel cabinet will hold 30,000 feet of film, so an audience may view pictures on whatever educational topics it prefers—history, agriculture, nature, industry, travel, health, anatomy, etc. Like all high-class temples of the silent drama, these roaming theatres have music—phonographs whose special lungs can fill the nights with distinct music for a radius of over 200 yards.

Hundreds of thousands of Mexicans are illiterate. Of course, it would be impractical to attempt to drive these grown-ups into a schoolroom. Motion pictures are the only medium by which Carranza could hope to cause these people to catch up with the rest of civilization. Educational pictures have been so developed in the last two years that a liberal education can be derived from them. And the "text books" of the screen instruct in the universal language which the illiterate can understand as well as the educated. Mr. Levey believes Carranza's educational policy, as revealed by the order for the trucks, heralds the dawn of a new day for Mexico.

Trailer Trucks of 50 Tons Capacity

A specially designed trailer truck, with a hauling capacity of 50 tons, is used by Allen Bros., Los Angeles trucking contractors, who have established a national reputation for hauling loads of tremendous weight. They recently handled a 40-ton marine engine cylinder, and some weeks ago a 30-ton locomotive, such as building contractors use, was hauled across the city. Visitors have commented on the long yellow cars of the Los Angeles Street Railway Co. One of these enormous vehicles recently was transported on a powerful Allen trailer truck, equipped with Goodrich 40x12 De Luxe dual truck tires.

Motor Sleds Replace Alaska Dogs

As motor trucks are tractors for trailers which roll, so motor sleds are to be tractors for pulling mail sacks over Alaskan snow trails, replacing dog trains. A Seattle firm is said to be building them, and mail is to be transported in this way this year if present plans are realized.

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FYRAC

SPARK PLUGS

Durable

To the dealer, the durability and saleability of a spark plug are the two important considerations.

Durability guarantees satisfied customers, which means more business. Every Fyrac spark plug is carefully tested for quality of materials and construction before shipment. They are durable. Fyrac's saleability and turnover is guaranteed by the National advertising, and Fyrac's "*one inch of firing surface*" makes them mechanically efficient.

Order from your jobber

NATIONAL SPARK PLUG CO., *Rockford, Ill.*

EXPORT DEPT., WERNER & BUTTS
336 WHITEHALL BLDG.
NEW YORK, U.S.A.

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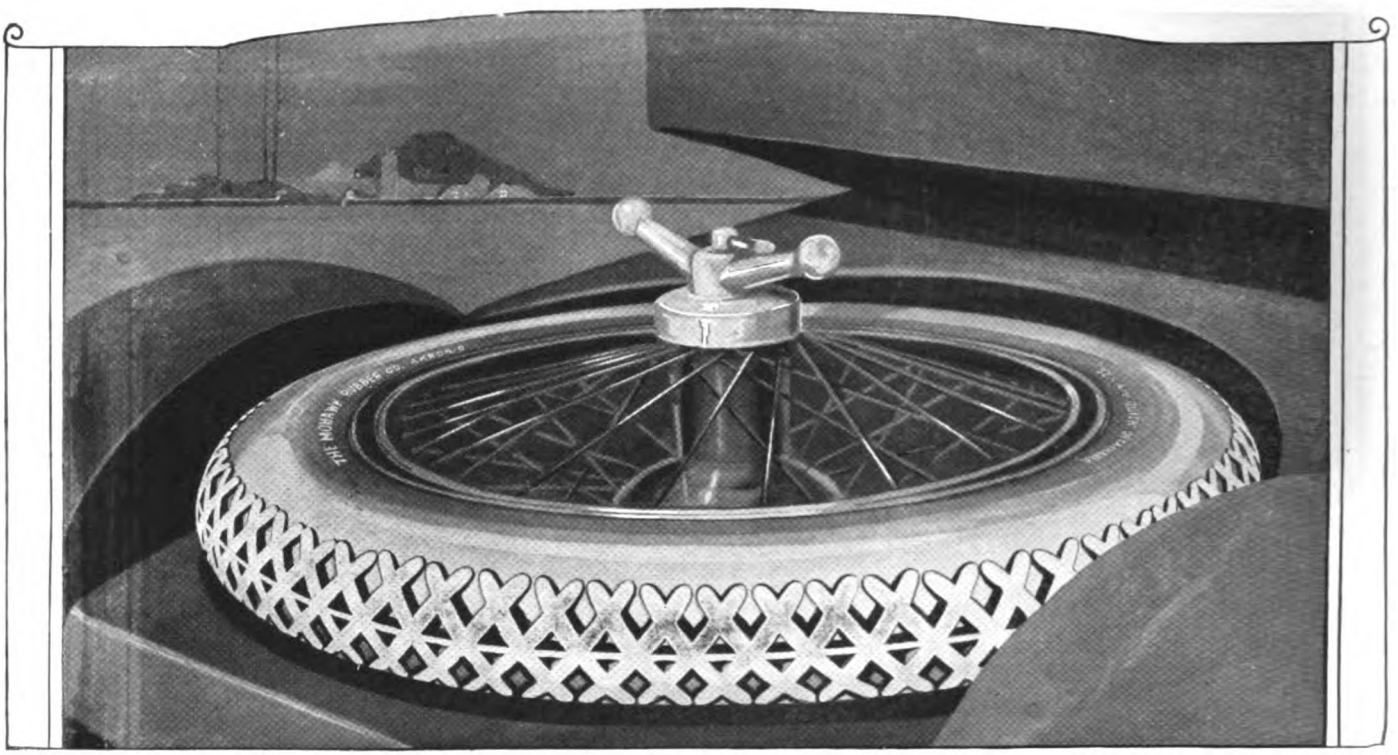

You Sell TANGIBLE Quality

When You Sell Mohawks

Mohawk dealers throughout the country testify that the reason for their success with Mohawks is because Mohawk quality is tangible.

One dealer recently said—"When I talk to a customer about Mohawk Tires, I do not talk mystericus processes or secret methods—I talk a real, tangible quality which he can readily understand and estimate.

"For example, I can show him on the scales that a Mohawk Cord tire weighs from eight to ten pounds more than any other Cord Tire, size for size---due solely to the extra quantity and extra quality of material in Mohawks.

"I can actually point out the extra ply of fabric in most sizes of Mohawk Tires.

"He understands and appreciates the advantage of a hand-made tire, too---much more than he would understand or appreciate a fancy name for a mysterious method of manufacture?"

In short---Mohawk dealers build big businesses and permanent businesses on *tangible* quality—on the pure rubber, the absence of fillers and shoddy, etc.

If you have decided that true quality is the best thing to sell, you will be interested in hearing about the Mohawk sales proposition.

MOHAWK RUBBER COMPANY, AKRON, OHIO

New York Boston Atlanta Chicago Kansas City Dallas San Francisco

MOHAWK "Quality" HAND MADE TIRES

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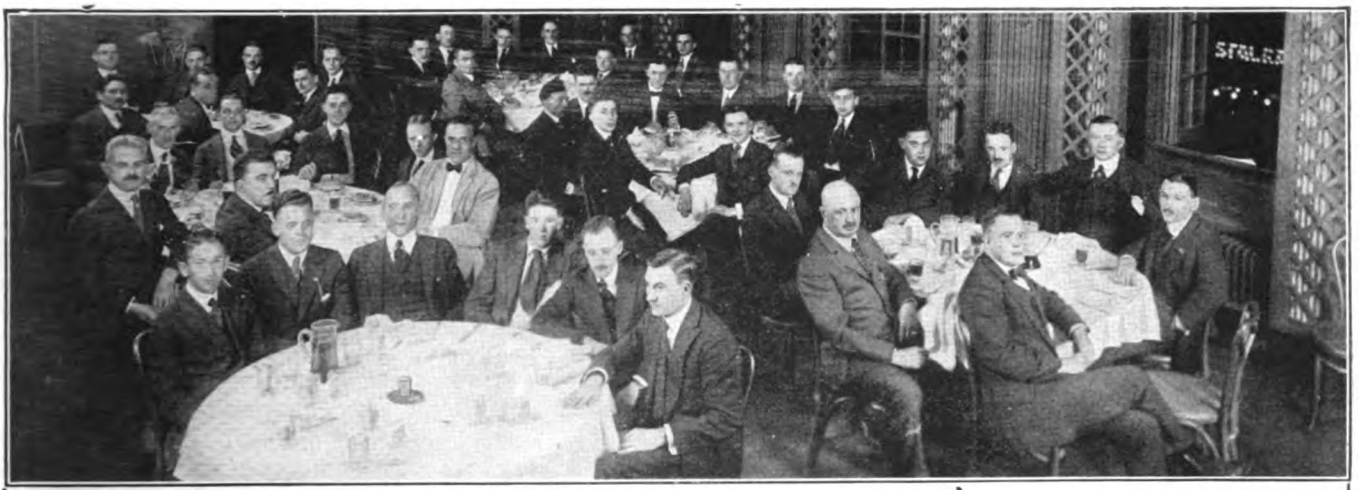

THE NEW YORK BETHLEHEM ORGANIZATION

New York speaks:

"A year and a half ago, when I secured the Bethlehem distributorship in the metropolitan district, my organization consisted of three men. Today, my New York Bethlehem organization is fifty-three men. This is in addition to an Associate Dealer Organization of fifty-two dealers, all programming with me.

Measured by results secured by other metropolitan truck dealers, this is considered an enormous success. I personally believe it is directly attributable to the Bethlehem product, and the Bethlehem co-operation. I have never been associated with a group of men whose ideas of real co-operation were as pronounced as those of the Bethlehem organization. Their co-operation is real, and makes itself felt in almost every angle of the business. The factory officials seem to take as much interest in my success as I do. Their help has been an inspiration and there is real satisfaction in knowing that I am selling a good product in the Bethlehem truck and furthermore that it is sold at a fair price.

It is my appreciation of the Bethlehem truck, the fair and business-building policy back of it, and to thank the Bethlehem officials for their kind assistance that I have used this space."

W. G. CRABTREE

New York's success is an indication of Bethlehem Dealer Prosperity the country over. And every Bethlehem Franchise carries Bethlehem cooperation. Your plans, plus ours, may start another prosperous Bethlehem Business. Write today for information about your territory. Bethlehem Trucks are made in the following models:

1½ Ton Chassis	2½ Ton Chassis	3½ Ton Chassis
$1965	$2365	$3465

F. O. B. ALLENTOWN

BETHLEHEM MOTORS CORPORATION

ALLENTOWN, PA.

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Model 56 One-Ton Standard

Constructed Throughout of Standard Units, Easily Replaced in Case of Accident—Listed at $1900 Factory

THE Standard Motor Truck Co. announces that its new Model 56 one-ton Standard is now in production. The Model 56, like the 2-, 2½- and 5-ton models, is constructed entirely of standard units. This feature of standardization is extremely valuable in that should an accident occur, new parts can readily be obtained from several sources of supply.

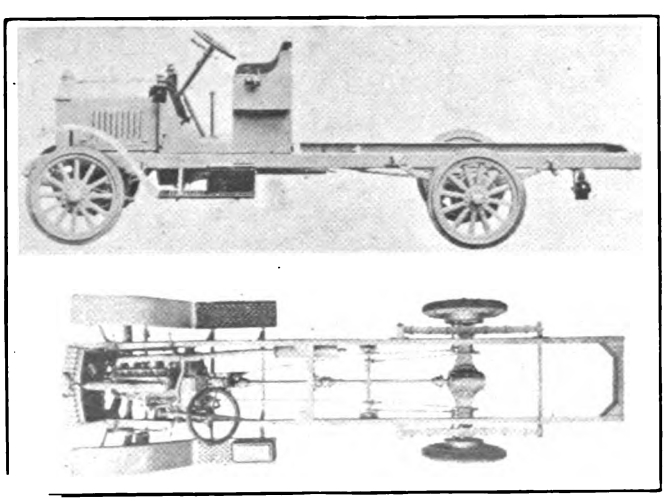
The motor is the Continental Red Seal four-cylinder four-cycle L-head type, with a bore of 3¾ inch and a 5 inch stroke. It is the three-point suspension type, rated at 23 horsepower S.A.E., but will develop 30 horsepower at approximately 1200 R.P.M. The cylinders are cast en bloc, and a rigid test under water pressure is given each cylinder before and after it is machined. The water jacket head is cast separately and is easily removable. The crankcase and oil-pan are separate and as all bearings are carried in the crank-case they are easily accessible by removing the oil pan. A centrifugal pump of ample capacity circulates the water through the cooling system.

The oiling system is automatic—a combination of the force-feed and splash types. The connecting rods are of I-beam construction, drop-forged and heat-treated. The camshaft is a single drop forging supported in long white bronze bearings and is lubricated by the oil that collects in the oil pockets which are cast in the crankcase for this purpose. It is easily removable. The crankshaft is made of special crank shaft steel, drop-forged and heat-treated, giving a tensile strength of 90,000 pounds per square inch.

The radiator is of the vertical spiral tube construction made with cast tanks of unusual capacity. In case of accident when one or more tubes have been damaged the core may be easily removed by simply removing the top tank. The defective tubes can be taken out and if necessary the tube holes in tanks plugged up until new tubes are secured. This feature has been proven a time- and money-saver when accidents have occurred to the radiator miles away from any service station.

A Stromberg carburetor with hot air stove equipment is used and ignition is obtained by the Eisemann high-tension, fixed-spark water-proof type of magneto.

Both the transmission and the clutch are of the Brown-Lipe type. Adjustment of the clutch, which is of the multiple disc type, is easily made by four lock screws. Spicer front and rear propeller shafts, and Universal joint assemblies, three-piece type, supported in the center with an S.K.F. ball bearing, are used. This does away with the whipping caused by a one-piece propeller shaft.



AND PLAN VIEWS STANDARD ONE-TON CHASSIS.

Timken-Detroit axles and Timken bearings are used throughout. The front axle is an I-beam section; the rear axle is the semi-floating type, worm drive. Perfection springs are used, and the frame is a heavy pressed steel 5-inch section. The regular wheel equipment is the artillery type wood wheel: front 34x3½; rear 34x4 single solid. Pneumatic tires will be optional at the additional difference in cost. The wheelbase is 134 inches.

The price of the Model 56 one-ton Standard is $1,900 f.o.b. Detroit, for chassis with regular equipment, consisting of horn, seat with cushion, and lazy-back, front fenders, two side and one rear oil lamps, tool box with jack and tool kit. The company will furnish any style body or cab equipment practical to install on motor trucks.

Fulton Says Motor Truck is Modern Empire Builder

It took a big war to make people realize that the motor truck is one of the greatest means of transportation. From 5,000 motor trucks in use ten years ago, the number has increased to 500,000. It is estimated that this year alone the number of trucks that will be manufactured and sold will amount to 350,000.

It is a matter of special note that the biggest users of motor trucks are farmers.

To the public, motor transportation holds out a promise of lower cost of living. Rural motor express routes bring produce into cities from farms within a large surrounding area and, by eliminating several handlings between producer and consumer, materially reduce prices of foodstuffs.

This is also true with many other products. It means lower prices to consumers and better prices for producers.

The motor truck links together more closely than ever before the farm and the city, and is bringing about an improvement in living conditions in both country and city.

The remarkable progress of motor truck transportation makes it necessary to build roads to carry the loads.

Millions of dollars are being spent for the improvement of our country roads. Instead of a narrow, short-sighted policy that will mean the waste of huge sums of money for roads that will be inadequate a few years hence, common sense and foresight must be used and our roads built with the needs of ten years in the future in mind.

The motor truck brings the most modern and economical means of transportation to the door of practically every farmer, and as transportation facilities in a community are improved, conditions improve. Land values increase because the price of land depends upon what it costs to get products to the market. Communities with good roads are always the most prosperous and up-to-date.

Great empires that will rival those built by the railroads in the past will grow and improve with the advent of good roads and motor transportation.

Pneumatic Tires Economical in So. Cal. Trucks

Pneumatic tires are of especial value as truck equipment in California because of the long stretches of paved roads, according to the testimony of Western truck men. The combination of pneumatics and good roads permits sustained high speed with full loads that greatly increases the efficiency of the truck. According to C. W. Viall, an expressman of San Bernardino, who operates two Commerce trucks daily between that city and Los Angeles, it is possible for his trucks, with full load, to make the trip from San Bernardino to Los Angeles in two hours and a half, which is as fast as the ordinary touring car makes the trip.

Speed on solid tires is very destructive to the motor truck as solids cannot cushion the mechanism of the truck against the shock and vibration of speeds faster than 15 miles an hour. On the giant pneumatics, however, such as standard equipment on the Commerce trucks, speed is no more of a hardship on the truck than it is on the touring car. Trucks equipped with pneumatics also show a distinct gasoline economy over those which use solid tires. The big pneumatics have also delivered from 15,000 to 20,000 miles. Repair costs are much less as a result of their use.

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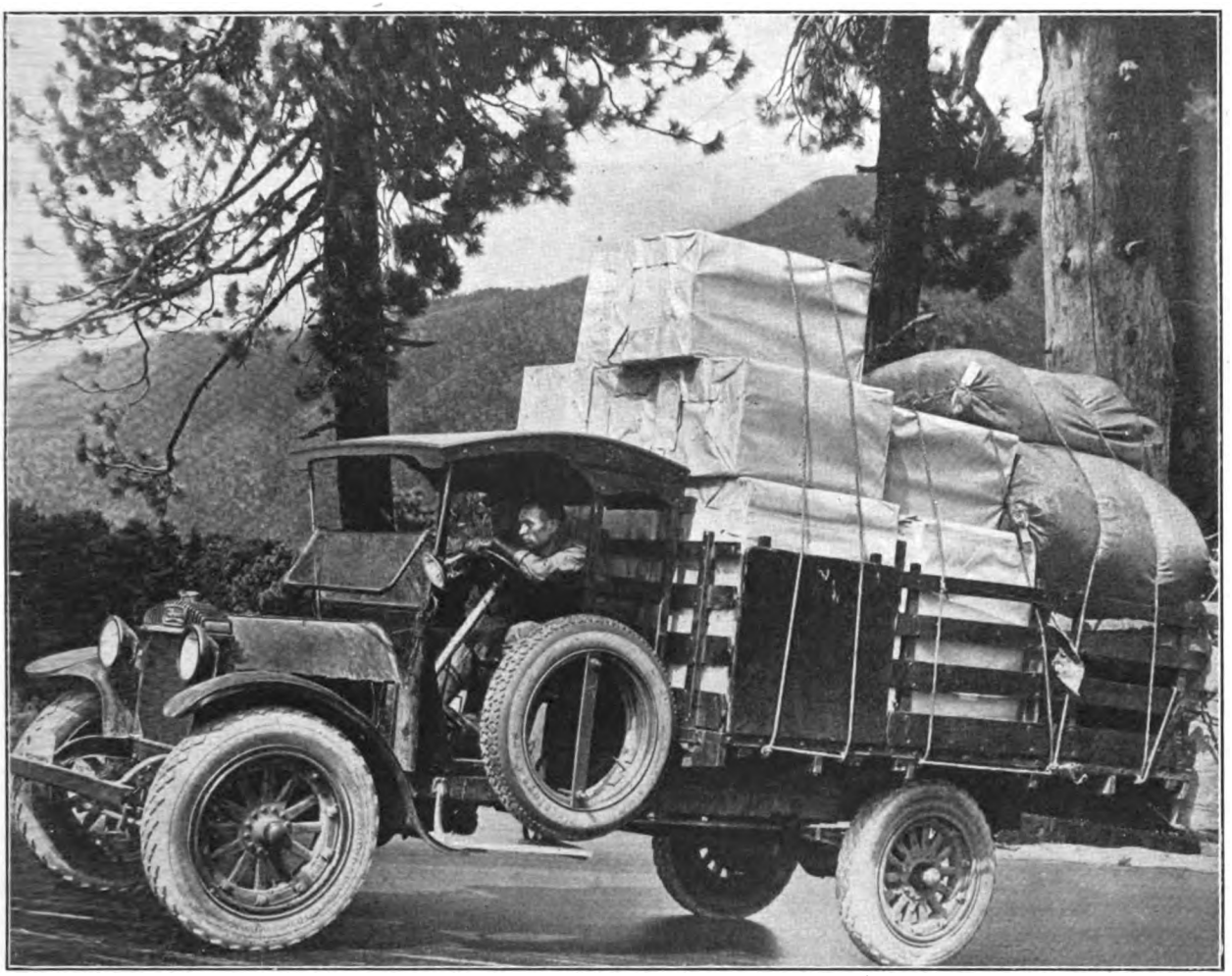

COMMERCE is the *modern* sort of motor truck. The ponderous, slow, costly, solid-tired truck is out of date for such uses as inter-city express work.

Commerce trucks carry loads up to two tons on big pneumatic cord tires that cushion truck and load, increase speed, reduce gasoline cost and repair cost.

There's a higher proportion of pay load weight to truck weight in the Commerce.

Low initial investment—low operating cost—low repair cost—these three vital advantages belong to the Commerce.

Write or Wire Us for Particulars

THE COMMERCE MOTOR CAR COMPANY
DETROIT, MICHIGAN

CITY GARAGE, INC.,
1205 South Olive St.,
Los Angeles, Calif.

McCRACKEN MOTOR CO.,
Portland, Ore.

C. P. KIEL,
1830 Van Ness Ave.,
San Francisco, Calif.

SULLIVAN TAYLOR MOTORS, LTD.,
1260 Granville St., Vancouver, B. C.

COMMERCIAL MOTORS CO.,
Seattle, Wash.

W. B. WOOD,
Pacific Coast District Manager,
1205 S. Olive St., Los Angeles, Calif.

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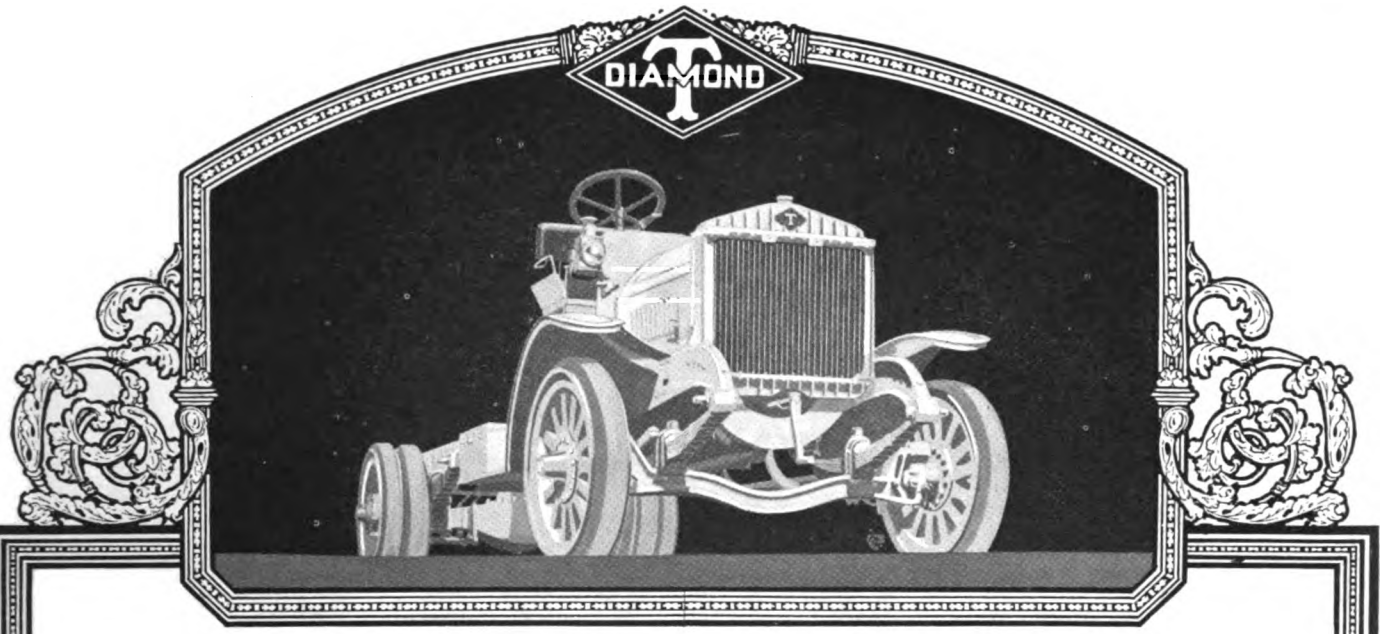

DIAMOND T

"The Nation's Freight Car"

The Two Sides to Service

OUR SIDE

As distributors of "The Nation's Freight Car," for the Pacific Coast, we have complete mechanical and human facilities for putting your Diamond T, whenever temporarily disabled by accident or abuse, back into prime operating condition. Notice we say "complete" facilities—and in saying that we do not leave you to guess whether Diamond T owners are satisfied.

YOUR SIDE

As users of "The Nation's Freight Car," you will find in its daily service that its design, assembly, balance, roadability and continuous performance make you almost a stranger to repairs. Do not take our word for this, but be guided by first-hand facts: ask some Diamond T owner near you to compare it with his **experience!**

These Distributors are behind Western Sales and Service:

Vernon A. Smith Motor Co.,
Distributors for the State of Washington
511-513 East Pike Street, Seattle, Wash.

Diamond T Truck Sales Agency of Oregon, Inc.,
Distributors for the State of Oregon
89-91 North Ninth St., Portland, Oregon

Hirsch Motor Company,
Distributors for Upper California
1131 Van Ness Ave., San Francisco, Cal.

The Walter H. Bissell Co.,
Distributors for Lower California and Arizona
1220 S. Grand Avenue, Los Angeles, Cal.

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Your next Carburetor

THE LIBERTY MOTOR CARBURETOR U. S. 52

WILL BE A

ZENITH

FIND OUT

WHY?

ASK ANY DEALER, GARAGE OR WRITE THE

LATHAN AUTO SUPPLY CO.

SAN FRANCISCO, CALIF.

Selden Companies Combine—now Selden Truck Corp.

Recently, announcement of the change of the corporate name of the Selden Truck Sales Co., Rochester, N. Y., to that of the Selden Truck Corporation, with factory and executive offices at Rochester, N. Y., was made over the signature of George C. Gordon. At that time stock in the Selden Truck Corporation was offered for subscription by brokers in New York, Cleveland, Chicago and Rochester and the entire issue was over-subscribed before any public announcement was made.

The new organization, as it now exists, is a reincorporation of the combination of the Selden Truck Sales Co. and the Selden Motor Vehicle Co., the latter organization having been the manufacturing division of the former company for years.

GEO. C. GORDON. HAL T. BOULDEN.
President and Vice-President in charge of sales of the Selden Truck Corporation, Rochester, N. Y.

At a recent meeting of the stockholders of the Selden Motor Vehicle Co., held in Rochester, N. Y., it was unanimously voted to accept the proposition of the Selden Truck Corporation, whereby that corporation would take over and operate the manufacturing plant under one name—the Selden Truck Corporation.

The new combined organization, to be known as the Selden Truck Corporation, with factory and general offices in Rochester, N. Y., will be officered by the same men who have "blazed the trail" and placed the Selden Corporation in the foremost ranks of motor truck manufacturers in the world today. The new organization will be headed by George C. Gordon as president; William C. Barry, who has been vice-president and general manager of the Selden Motor Vehicle Co. and also first vice-president of Sales Co., will become vice-president in charge of the manufacturing of the new corporation; R. H. Salmons, who has been active in the vehicle organization since its beginning, will continue as vice-president; H. T. Boulden, who has been vice-president of the Sales Co., will continue as vice-president and sales manager of the combined organization, having charge of sales and advertising. Other officers, who have been active in the old organization, and who will continue with the new consolidation are S. P. Gould, secretary; E. B. Osborn, treasurer; C. E. Williams, sales manager; J. R. Coleman, chief engineer, and C. Henry Mason, advertising counsel. The only new man in the Selden ranks at this time Mr. R. H. Bollard, who is added to the directorate of the company as a representative of the New York financial interests.

"Fat stock travel with greater comfort where the truck supplants the railroad" declares Vice-President H. A. Conlon, of the Acason Motor Truck Company, Detroit. "They are not so long on the road, do not lose as much weight and enable the farmer to get his stock to market when prices are most favorable."

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REPUBLIC
Yellow Chassis
TRUCKS

THERE is no getting around the facts about Republic Trucks: Republic sales growth has no parallel. Republic Trucks stand better, with more American business men, than any other. They are rendering heroic service to a greater number of businesses than any other. These simple facts have made the Republic Company, in six years, the largest manufacturer of motor trucks in the world.

Republic Motor Truck Co. Inc., 941 Michigan Ave., Alma, Mich.

REPUBLIC
TRUCKS

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Why Acme is a Leader

This story of the McWhorter truck shows why Acme owners have such faith in the Acme, and why dealers everywhere take such pride in their Acme connections.

Two Ton Acme, owned by J. S. McWhorter, Dallas, giving a good account of itself in the gruelling service of the Texas oil fields.

McWhorter's truck is a 2 tonner bought in January, 1918, and since then has been operating in freight service continuously. It travels 60 to 120 miles every day. In fact, two Acme trucks move a big share of the merchandise and freight to Lewisville, Texas.

Whether hauling live-stock and other merchandise, or moving a young dry-goods store, or machinery and supplies to the oil wells, the Acme has proved to be the most dependable and sure-enough-for-certain mode of hauling in that country.

When you sell the Acme you sell a truck that can do anything there is to be done.

Acme represents the finest dealer opportunity of the truck industry. Performance is assured by the adoption of such proved units as Continental motor, Timken axles, bearings and drive, Borg and Berg clutch, Ross steering gear, Cotta transmission, with gears always in mesh, and all other parts of equal high grade, correctly assembled in a well-balanced truck.

Built in 1, 1½, 2, 3½ and 5-ton models.

Write for our dealer proposition and an outline of our smashing national advertising campaign; also a copy of "Pointers for Profits."

Address Dept. 112

(The seal of Dependable Performance

ACME THE TRUCK OF PROVED UNITS

Trade-Mark Registered U. S. Patent Office)

The most dependable opinion is that of the man who knows from experience. The best ACME endorsement comes from oldest ACME users.

ACME MOTOR TRUCK COMPANY, CADILLAC, MICH.

Motor Truck Production for Season Quarter of 1919

Nearly one-half of the trucks manufactured during the second quarter of 1919 were of 1- to 2-ton capacity. These interesting figures, which are authentic, are from the manufacturers' records, proving that the greatest public demand is for trucks of 1-, 1½- and 2-ton capacity.

There were 37,373 trucks manufactured in the United States in the second quarter of 1919. Of this number the 1-ton type predominate with a total of 7,350; the other figures follow: 1½-ton capacity, 4,568; 2-ton capacity, 4,739; 2½-ton capacity, 1,484; 3-ton capacity, 1,099; 3½-ton capacity, 2,257; 4-ton capacity, 144; 5-ton capacity, 3,166; ½-ton capacity, 3,619; ¾-ton capacity, 6,477; over 5-ton capacity, 587; capacity not given, 1,121; fire apparatus, 122; busses, ambulances, hearses, 39; government trucks, 601.

Director of Sales and Advertising G. D. Wilcox, of the Commerce Motor Car Co., argues that these figures show that trucks of 2-ton capacity and under are the best selling proposition for the dealer because of public demand.

Stewart Motor Corp. in Excellent Financial Condition

At the regular monthly meeting of the board of directors of the Stewart Motor Corporation, Buffalo, N. Y., a quarterly dividend of 2 per cent on preferred and 2½ per cent on common stock was passed. June and July were two of the biggest months in the company's history. The growth of the Stewart Motor Corporation has been almost phenomenal. From a small beginning in 1912 to its present position near the top of the list of exclusive truck manufacturers, is a record of which the company is proud. Within the next 30 days the company will move into its modern new plant, which covers nine acres of land and which will materially increase the production of Stewarts. The present factory will be operated in conjunction with the new plant.

Bethlehem Motors Stock Listed on Gotham 'Change

Stock of the Bethlehem Motors Corporation, Allentown, Pa., was listed on the New York Stock Exchange September 13. Announcement was made at that time in New York that the Bethlehem Motors Corporation had absorbed the North American Motors Co., of Pottstown. Roy S. Davey, general sales manager of the corporation, recently added to the sales force 31 field men who cover the entire United States in 26 territorial divisions. This energetic sales campaign has resulted already in an enormous increase in the business of the company, which is to-day manufacturing under full headway an output of trucks which is taxing the capacity of the enormous plant.

Bush is Republic Export Manager

Vernon E. Bush has been appointed manager of the export sales division of the Republic Motor Truck Co., Alma, Mich. His experience covers more than ten years in the automotive field—handling tractors, general farm equipment and automotive products for export. He was assistant general sales manager of the Advance Rumely Co., La Porte, Ind., seven years, then for three years sales promotion manager (foreign department) of the White Motor Co., with headquarters in New York.

Division Sales Managers for Ace Truck

Four new divisional sales managers have recently been appointed by the American Motor Truck Co., of Newark, O., as announced by General Sales Manager H. J. Vogler. The appointments are W. F. Lehman, Wright Gillies, W. D. Paine and Max A. Wiltenstein. As divisional sales manager Wiltenstein is now visiting on the Coast.

Heads Traffic Truck Advertising

J. Albert McCollum, formerly in charge of automobile advertising with a St. Louis, Mo., newspaper, has been appointed advertising manager of the Traffic Motor Truck Corp., of St. Louis.

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Wilson dependable MOTOR TRUCKS

The Dealer Sold One Wilson Truck

He Got Profits on Eleven

It costs money to sell the first truck to a new customer.

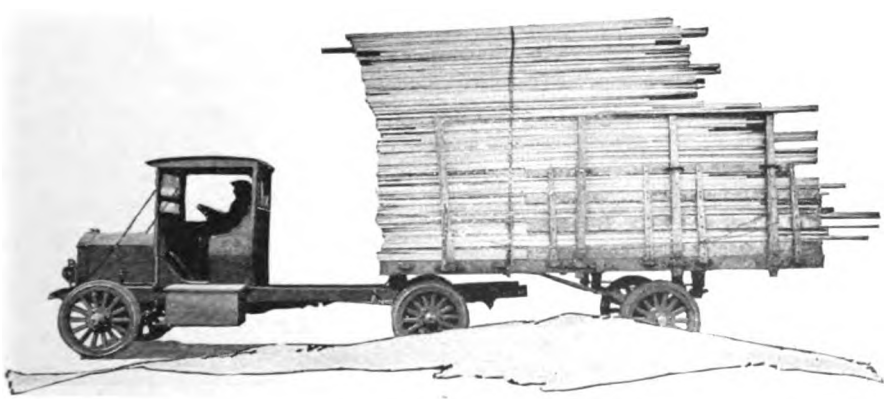
To get an order for the first truck you have to convince the buyer that the truck will "stand up." When it does "stand up," you'll have a whole lot easier time getting his next order.

It's the **repeat** business that makes Wilson trucks such a good proposition for truck dealers. The dealers find that repeat business is the biggest money-making factor in their business.

They don't have to **sell a Wilson** twice to the same user. The truck's own record brings the orders as the users' need for more trucks grows.

The Detroit dealer didn't count on profits from eleven trucks when he sold the first Wilson truck to the Brown Trucking Co. The first sale grew into eleven.

We'll tell you of similar instances all over the country, if you are interested.



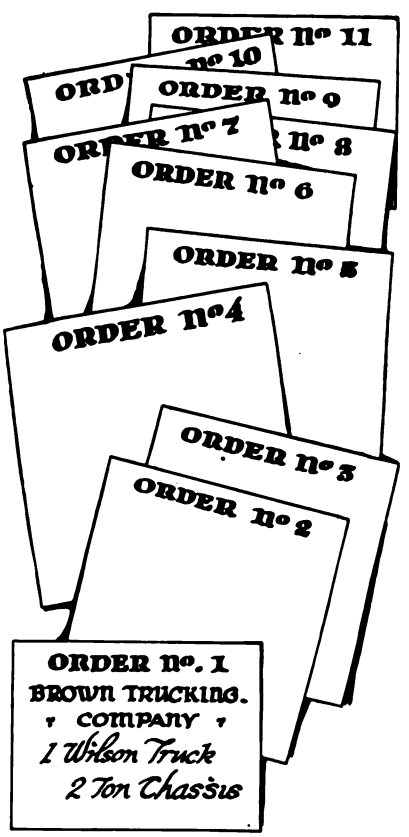
Record of the First Wilson

Sold Ten More

BROWN TRUCKING CO.,
DETROIT.

This is the first truck purchased of our present fleet of eleven Wilsons. It has been run more than 65,000 miles. The normal load it carries is seven tons, and frequently nine tons. We have hauled with this Wilson 2-ton chassis and trailer equipment as much as 22,500 lbs. at one load. Will further say that we keep an accurate individual record of our trucks and our books show that this Wilson has cost us an average of only $3.47 per month for repair parts and labor.

(Signed)
R. E. BROWN, Gen. Mgr.



1—2—3½ and 5 Ton—All Worm Drive

J. C. WILSON COMPANY, Detroit, U. S. A.
Export Office: 100 Broad Street, New York

36th Year

COMMERCIAL VEHICLE MANUFACTURERS

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Field DURABLE BODIES

An Enduring Investment

In the good will of your customers—that's the truth about *every Field Body you sell.*

Field Durable Bodies are built to give *permanent satisfaction.*

They possess great strength, with the lightest weight consistent with that strength.

The bolster construction, for instance, is most substantial. Guardangles, stake pockets sills and floor are tied solidly together—a feature found *only* in *Field's.*

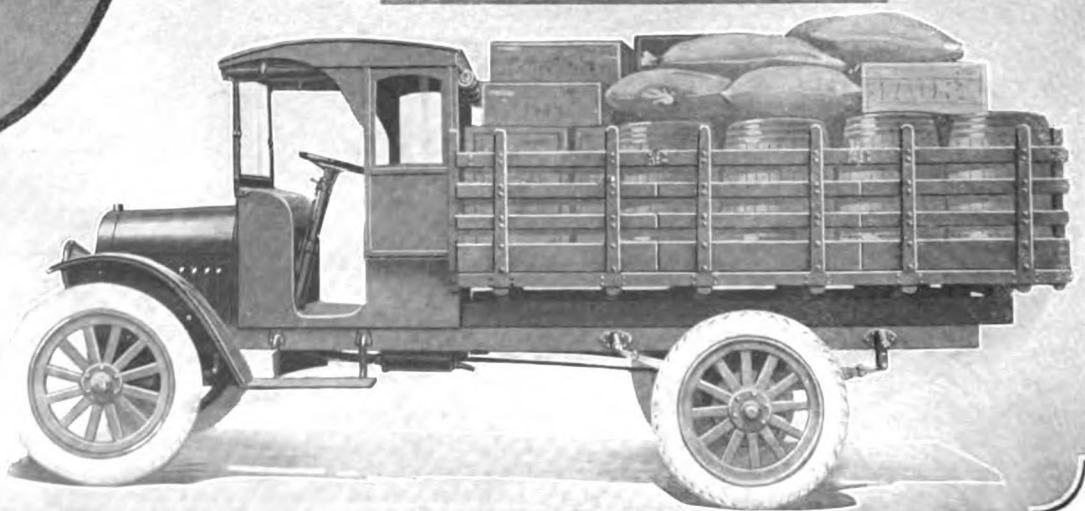
Our manufacturing facilities are complete, and so large that we produce Field Bodies at a price surprisingly low.

Our knockdown shipments secure lowest freight rates. A complete line of *Ford Bodies* always in stock. We are originators of the interchangeable unit idea for trucks.

Write for prices and full description.

Address Dept. X.

FIELD MANUFACTURING CO.
OWOSSO, MICHIGAN, U. S. A.



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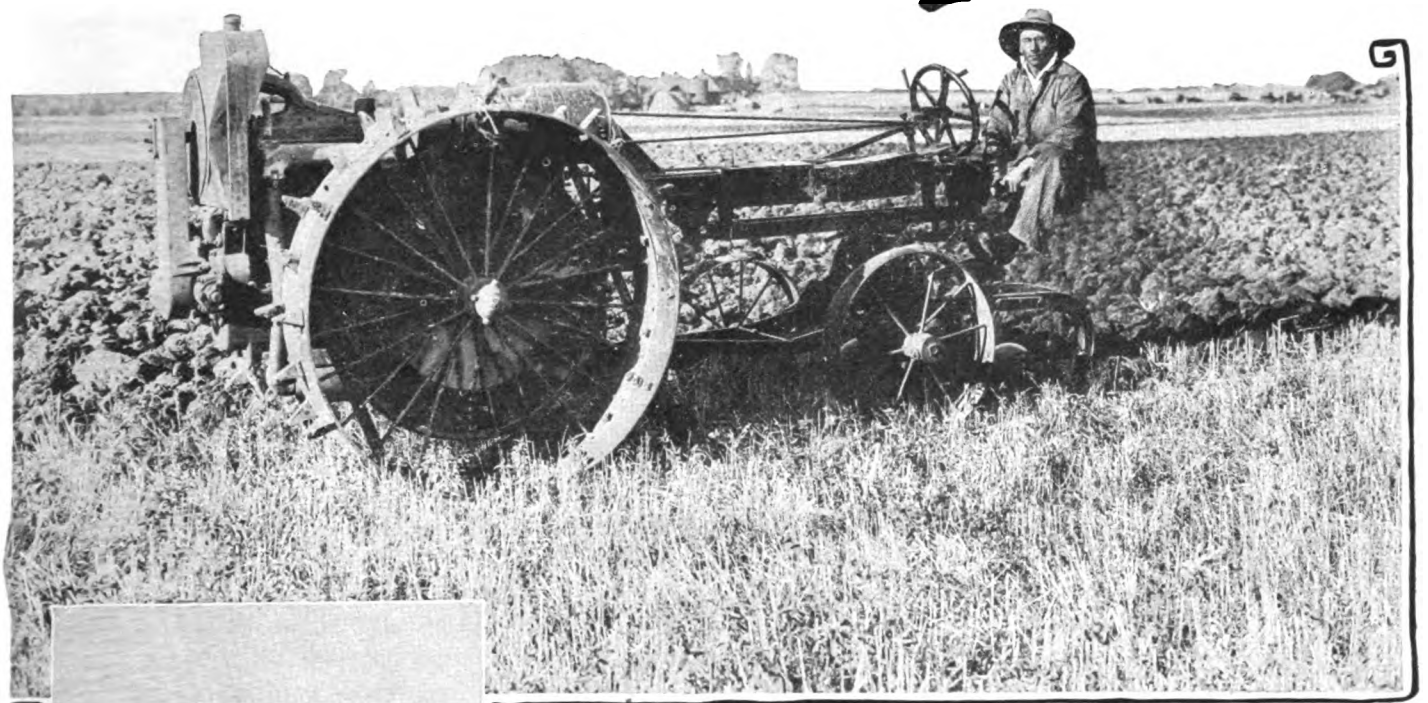
The Champions



Mr. Ben Davis, five times champion, again won the annual Wheatland Plowing Match this year, but in a new class. His previous championships have been won with horses. This year he won with the Moline-Universal Tractor.

Why did he select the Moline-Universal Tractor, and why did he win?

Like all good plowmen, Mr. Davis likes to sit on the seat of his plow, so he can adjust it to meet all varying soil conditions instantly, and do a good job of plowing. At any time he could stop and back up with the Moline-Universal as easily as he could go forward. And the Moline-Universal has the power to plow right along in the even tenor of its way in tough places as well as in the easy going—122% reserve power at Salina, Kansas, in 1918, and 108% reserve power at Columbus, Ohio, in 1919.

Mr. Davis is a great plowman and the Moline-Universal Tractor is a great tractor. They made an unbeatable combination. That's why they won.

And Mr. Davis has a tractor in the Moline-Universal which he can use from one year's end to the next—for all field work, including cultivating—and plenty of power for belt work.

Moline Plow Co., Moline, Ill.

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FLEXIBILITY + POWER

Embodied in the power plant of

"KALAMAZOO"

"The Hand-Made Truck"

Gives our distributors something to talk about and we stand back of our truck. Kalamazoo users are satisfied at all times.

Three Models, 1½ ton, 2½ ton, 3½ ton

Now opening some new territory. Send for our catalogue and proposal to Distributors—it will interest you.

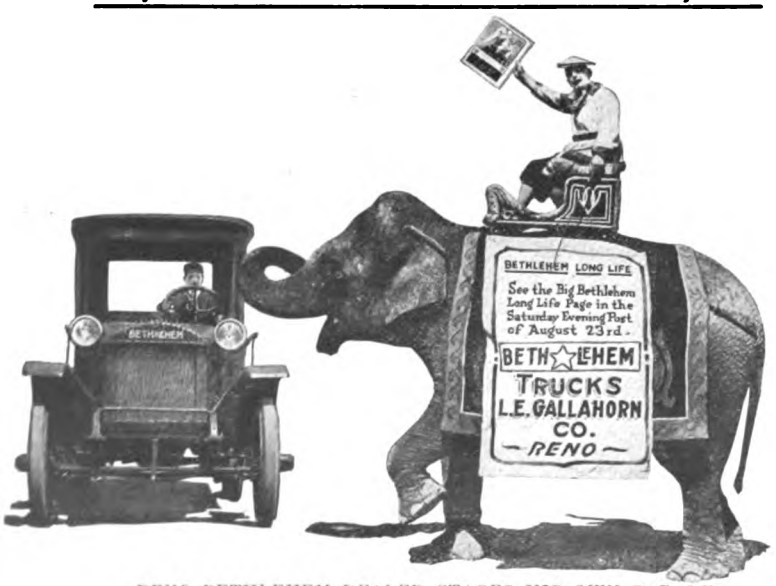
Kalamazoo Motors Corporation

(Motor Truck Division)

Kalamazoo, Michigan, U. S. A.

Truck Development Tour Educates Farmers

That it is not necessary to await improved roads before buying trucks is being demonstrated by the National Truck Development tour now being conducted by the National Association of Motor Truck Sales Managers to demonstrate the motor truck to the farmers. Roy S. Davey, general sales manager of the Bethlehem Motors Corporation, spent one week with the tourists and found every conceivable kind of road. "The tour," says Mr. Davey, "proved that farmers need not wait for improved roads to use motor trucks. The wagon for business has been demonstrated on this journey to thousands upon thousands of farmers, and has shown that it is best when equipped with pneumatics for traffic on roads that are not improved. Actual demonstrations to the farmers made by carrying his produce to market and by delivering material to his farm are far more convincing than printer's ink."



RENO BETHLEHEM DEALER STAGES HIS OWN PARADE.

L. E. Gallahorn, the Bethlehem dealer in Reno, Nev., was so impressed with the largest advertising elephant in publicity as it recently trumpeted the Bethlehem message of long life to the readers of Saturday Evening Post that he hired him an elephant, a clown complete, and staged a Bethlehem parade of his own. Mr. Gallahorn said that the clown complained of the startling difference in hill climbing between a Bethlehem and an elephant.

Truck Manufacturer Spurns Railroad

Some time ago, when the railroads were so short of cars that traffic was congested, the Clyde Cars Co., Clyde, Ohio, was so badly in need of axles for its trucks, that one of its 5-ton Clydesdale trucks was sent to the Timken-Detroit Axle Co., Detroit, for the parts. The trip was so successful that all axles have been so hauled ever since, and the company finds that it is cheaper and more convenient than shipping by railroad.

Every month sees an increase in the amount of freight that is shipped by motor transport and the time is coming when the great majority of short hauls will be carried by motor trucks. We believe that the railroads will welcome this as they make more money on longer hauls and it would save tieing up cars for short hauls. Traffic would move faster and more cheaply.

Decline of the Horse in New York City

The census enumerators of 1910 found 128,224 horses in New York city, including nearly 3,000 horses on farms. By the stable enumeration of the Sanitary Bureau of the Board of Health, 108,036 horses were found in 1917 and 75,740 horses in 1919. Assuming that the enumerations of the two agencies are fairly comparable, it appears that 16 per cent of the number of horses of 1910 had been lost by 1917 and 41 per cent by 1919. Over 25 per cent, or one-quarter, were lost in the last two years and only 16 per cent in the preceding seven years.

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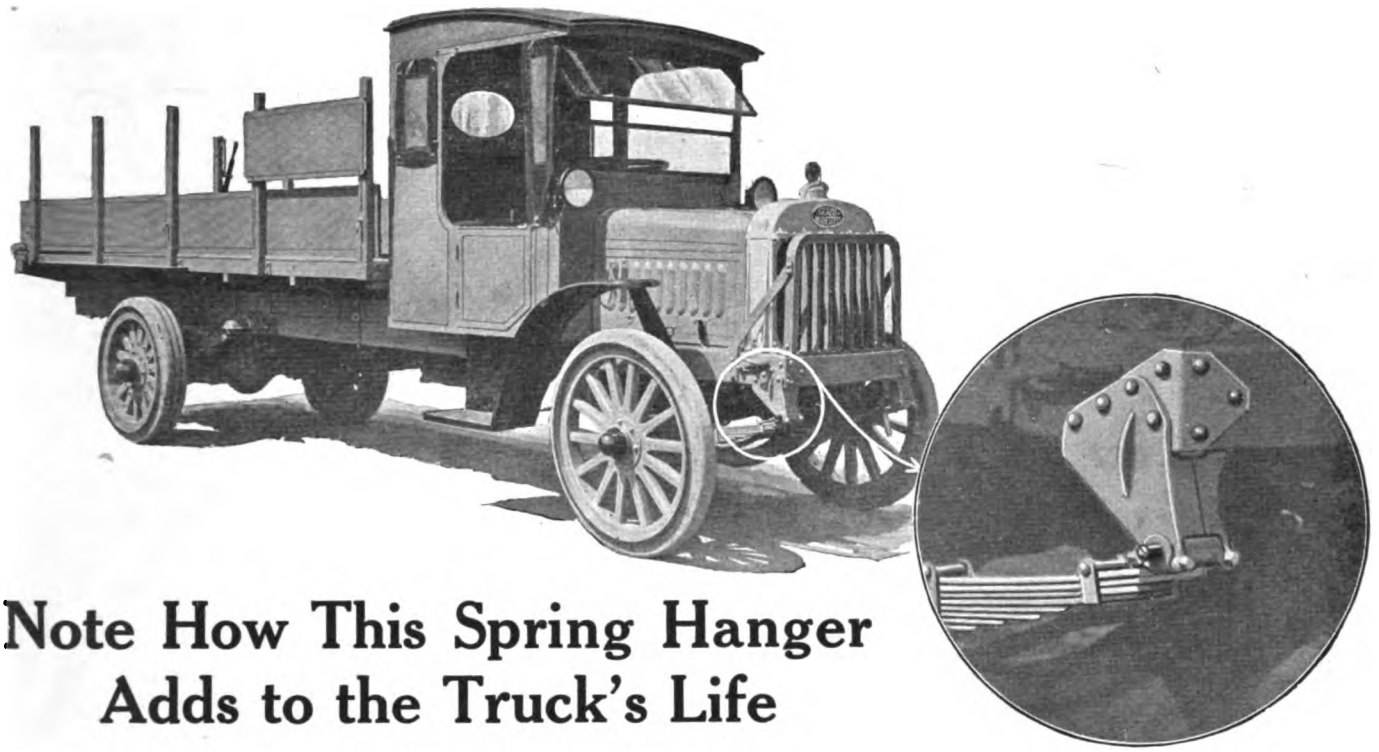

Note How This Spring Hanger Adds to the Truck's Life

The front spring hanger of a truck appears to be a minor detail. In reality, it is a vital engineering point. Its design actually influences the very life of the truck. Gramm-Bernstein front spring hangers are not extensions of the frame side-members. That is excellent passenger car practice.

But a truck should have something much stronger and stouter. So we use a heavy cast steel hanger.

B. A. Gramm learned this early in his nearly 20 years of truck-building. The same care and engineering skill he applies to this one thing is evident throughout the Gramm-Bernstein truck.

One of the results we get is a much stauncher front end, far less liable to serious damage.

Another is increased loading space back of the seat, on a proportionately shorter wheelbase.

That, in turn, means a better load distribution.

Fourth, and most important of all, is that this better load distribution makes the truck steer better, pound less on the road, and therefore last longer.

The motor truck has only one reason for existence — to haul freight satisfactorily and economically.

It is obvious that Gramm-Bernstein's greater loading space increases the truck's usefulness as a freight carrier.

It is equally obvious that our comparatively shorter wheel-base adds greatly to tractive efficiency and to economy, and gives a shorter turning radius for crowded or narrow streets.

In other words, the results which our particular kind of front spring hanger helped us to get, are exactly the results a business man wants in his truck.

Mr. Gramm pioneered the truck industry. He built trucks when there were no others.

He has always worked to make his trucks meet transportation needs with the greatest effectiveness and with corresponding economy.

To this end he devised the trouble-proof transmission, the radiator shutter and shroud, and the other features which actually do make the Gramm-Bernstein a more dependable, more profitable, longer-lived truck.

Gramm-Bernstein Trucks in 2, 2½, 3½ and 5-ton capacities, are now sold completely equipped, ready for the body—not an extra to buy.

All Gramm-Bernstein Transmissions are provided with a pad for attaching Gramm's Basic Patent Power Take-off. Dealers and truck owners should assure themselves that any trucks purchased with power take-off do not infringe B. A. Gramm's Basic Patent No. 1194994.

The Gramm-Bernstein Motor Truck Co., Lima, Ohio, U. S. A.

Pioneers Since 1901—Builders of the First Liberty (U. S. A.) Truck

F. B. CLARK, Pacific Coast District Sales Manager, Room 401, No. 143 2nd St., San Francisco, Cal.

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NAPOLEON DEALERS

Are All Napoleon Boosters—the Best Evidence of Extraordinary Satisfaction that Accompanies Bigger Profits and Increasing Sales

Two Capacities 1 and 1½ TON

Napoleon dealers are all enthusiastic boosters for Napoleon Trucks—and there's a reason.

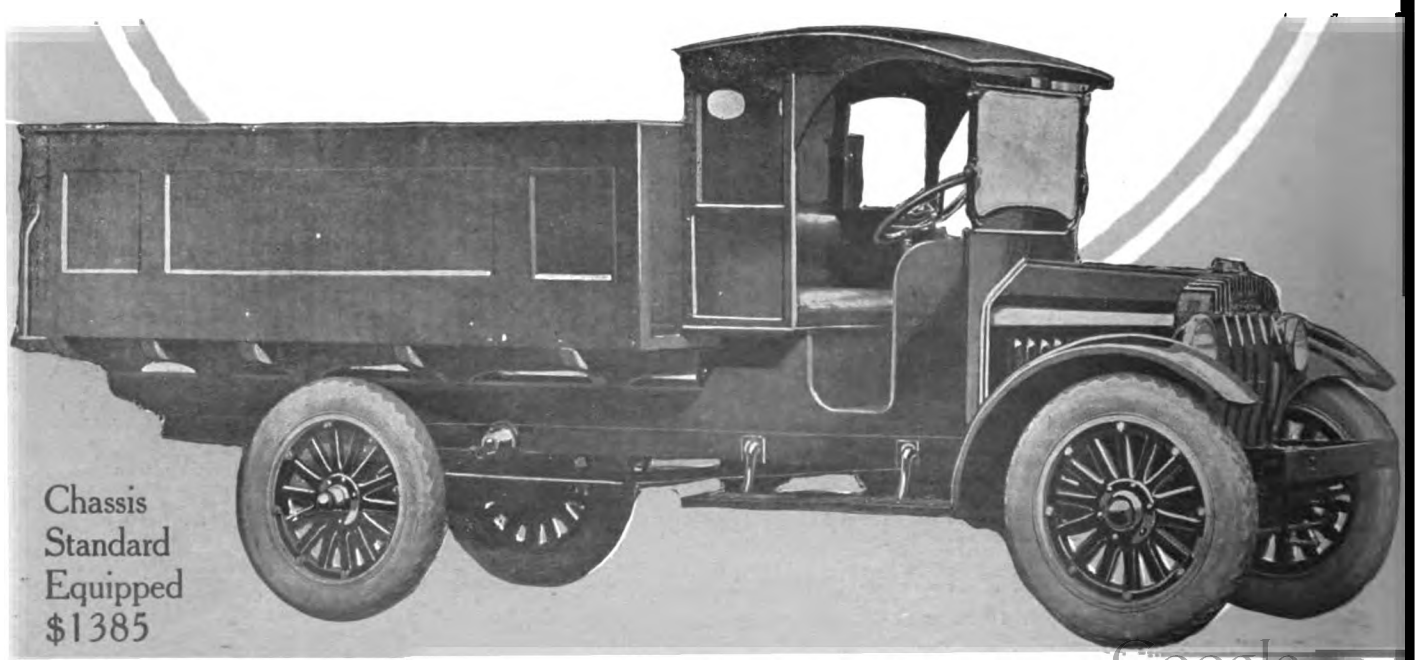
In the first place Napoleon Trucks are built of nationally advertised Standard Parts, which are known to ninety percent of the buying public. This is one prime reason why Napoleon Trucks sell so readily.

Then again the selling plan—the sales co-operation — and our ability to make prompt delivery in addition to the quality of our trucks, at prices which appeal to popular demand, compel Napoleon dealers to make good.

A better truck for less money can't be built. From the radiator, back, Napoleon Trucks are unapproached by competition.

No selling proposition in the truck field today can offer an equivalent opportunity to dealers. If there is unassigned territory around you, wire, write or come direct to our factory and hook up with a real organization of men who know how to build real trucks—and who can assist you in making real profits.

An article becomes Standard when, by popular use, it is made the choice of the buying public —when after thorough acquaintance and uninterrupted use it "makes good" for a discriminating demand.



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NAPOLEON PARTS

Are Nationally Advertised Standard Parts—
Known to 90% of the Buying Public

Two Capacities
1 and 1½
TON

If you are in unoccupied territory
and can sell the greatest truck value there
is in the field today, you need the Napoleon line.

Address
NAPOLEON MOTORS COMPANY
TRAVERSE CITY :: :: MICHIGAN

NAPOLEON FEATURES

Beginning at the front, the radiator adopted is of the Army type, tubular core, protected by five bars spaced equally in front.

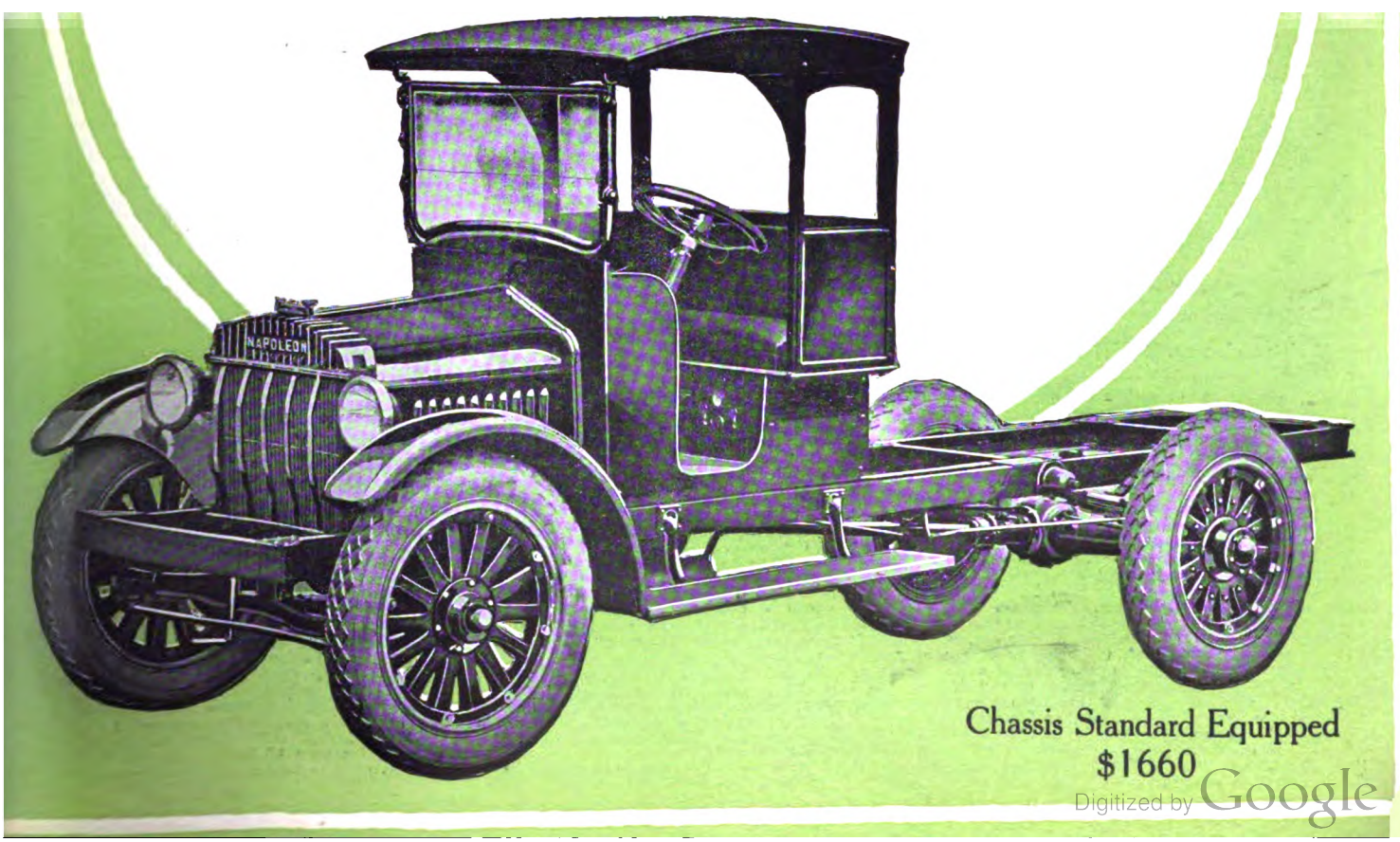
The frame is of channel structural steel, reinforced through its load-carrying length and projecting in front of the radiator to a cross member, forming an excellent bumper, thus giving added protection.

The springs are of the best quality nickel steel, semi-elliptic, graded construction, ample allowance being made for overload.

The wheels are of the artillery type, square spoke, made from selected, seasoned timber.

Electric head, tail lights and horn are regular equipment on all models. The emergency brake is operated by a hand lever and is located immediately back of the transmission. It is of the external contracting type, the drum being 10 inches in diameter with 3-inch face. Its action is positive under all loads.

Napoleon Trucks are hand painted throughout, extreme care being exercised as to their neat appearance. The motor, rear axle, transmission, frame and complete specifications are specially described and illustrated in our catalog. Send for it TODAY.



Chassis Standard Equipped
$1660

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Trailers Help Lower H. C. of L.

Operating Costs Per Ton-Mile Are Materially Lowered by Their Use, With Beneficial Effects Upon Prices.

FAULTY distribution of foodstuffs and other necessaries of life is responsible to a considerable degree for high prices to consumers. Official investigations show that it costs as much to deliver farm products from railroad terminals in big cities to city consumers as to ship them by rail from points 300 or 400 miles distant.

On the other hand, the cost of hauling products from the farm to the shipping points and to take manufactured goods back to the farm is double or triple what it need be. These transportation costs at both ends of the rail haul must be added to the prices charged for farm and factory products, and the consumer "pays the freight."

Rail and water haul are the cheapest forms of transportation and there is no prospect of any substantial reduction of freight charges. The only possibility of lowering the cost of transportation materially lies in the haul at either end of the rail and water routes—that is, in haulage by highway. There are tremendous possibilities in savings in this direction. Careful investigation by the Department of Agriculture last year showed that haulage from farms to shipping points cost less than half as much by motor truck as by horse and wagon, even under present conditions of the highways. Thus, the average cost of hauling wheat by wagon was 30 cents a ton for each mile, while the cost with motor trucks was only 15 cents; to haul corn by wagon cost 33 cents per ton-mile as against 15 cents by truck, and to haul cotton by wagon cost 48 cents compared with 18 cents by motor truck.

Even these comparatively low rates for hauling with motor trucks can be cut in half by the general use of trailers, since the hauling capacity of a truck can be doubled or even tripled in many cases by towing one or two loaded trailers behind the truck, or using a semi-trailer with the truck. A motor truck will draw a trailer with a load equal to that on the truck itself over hard, fairly level roads, or it will haul a semi-trailer or double or triple its own load capacity.

Savings that can be effected by farmers through such use of trucks and trailers will result in better returns to the farmer for his labor and tend to reduce prices of farm products, because competition will inevitably force other producers to meet prices which the farmers can make who employ the most economical means of marketing.

Rural motor express express lines which adopt trailers for hauling find their operating costs per ton-mile greatly reduced, which enables them to make a better profit on the service and at the same time to lower their charges to shippers. Where such lines are in competition, the operator who does not use trailers will be forced to meet the rates of the operator who does use them, and in self-protection will have to adopt trailers also.

Similarly, the general use of trailers and semi-trailers in the cities will reduce haulage costs. The experience of many users has shown that with trailers the cost of motor trucking can be cut 40 to 50 per cent, because two or three times as much load can be hauled by one driver at each trip, while operating expenses such as gasoline and oil consumption, are increased only 15 to 20 per cent. When a few trucking companies lower their charges as a result of such economy in operation, there will have to be a general lowering of rates, and this will be reflected in retail prices of the goods hauled. Thus the consumer will eventually get the benefit.

New Bethlehem Distributors in "Motor West" Territory

The Bethlehem Motors Corporation, Allentown, Pa., announces the following new distributors in territory west of Denver: A. L. Petrie, Yuma, Colo; Equity Mercantile Association, Limon, Colo.; Ned R. Brown, Burlington, Colo.; J. H. Hollenbaugh, Cheyenne Wells, Colo.; Max Reiche, Haxtun, Colo.; Sweet Water Auto Co., Green River, Wyo.; Clifford E. Jones, Hugo, Okla.; L. E. Gallahorn Co., Reno, Nev.

FULTON GROUND GRIPPERS ENABLE FARMER TO WORK HIS TRUCK ON SOFT GROUND WITHOUT THE AID OF HORSES.

The Fulton Motor Truck Co., Farmingdale, Long Island, has just announced the Fulton Ground Gripper, designed to promote the wider use of the motor truck in direct transportation from the fields to the market. This invention requires little loss of time for application to the wheels, and need not be removed when the truck passes from soft to hard ground. The grippers are so placed upon the wheels that they do not come in contact with hard going and do not injure the roads. They grip as soon as the wheels bear down into soft material.

Ground Grippers are wide iron bands with metal flanges bolted diagonally across the outside of the band. These flanges are similar to those found on tractor wheels. They are attached to the wheel of the truck in a simple way, requiring only 20 minutes to place all four bands in position for work. There are four twelve-inch bolts with special wide metal bands. These bolts are attached to two L-shaped metal strips, which are held in position by two spokes. The bolt from these strips, is attached by nut and washer to the band and quickly tightened.

On newly-plowed fields, the grippers permit of the transportation of heavy loads and have given the utmost satisfaction. By their use the farmer can dispense with the necessity of using horses to haul four and five loads from the field to make up the truck load on the harder going. He has been able to transport fertilizer to the field direct and distribute it without loss of time reloading to horse-drawn wagons at the field. Harvesting of crops has been simplified, the truck passing steadily along the fields while being loaded. Passing from the field the road grippers are left in position, as flanges are so placed that they clear the road-bed and cause no injury to it. In event of heavy going on the road the flanges immediately take hold and are of assistance again in reaching the market.

The illustrations show a Fulton two-ton truck equipped with ground grippers. This work formerly required a team of horses making five trips to load the truck. With the grippers the farmer saved much time previously lost and the complete saving was made more noteworthy through the saving of horses in the work. A "close-up" of the grippers is also shown.

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Standard
DETROIT USA

MOTOR TRUCKS

1, 2, 3½, 5 TON
WORM-DRIVE

'ALL THE NAME IMPLIES'

A 3½-Ton Standard

Built for Years of Constant Service

STANDARD Motor Trucks are built for heavy haulage. Their sturdiness, economy of operation and wide range of adaptability predominate wherever there are heavy haulage problems to be solved.

No matter what the type of load, regardless of weather conditions, over almost any sort of road—STANDARDS give years of constant unfailing service—service which makes for added profits instead of repair bills and costly delays. It will pay energetic dealers to investigate the STANDARD.

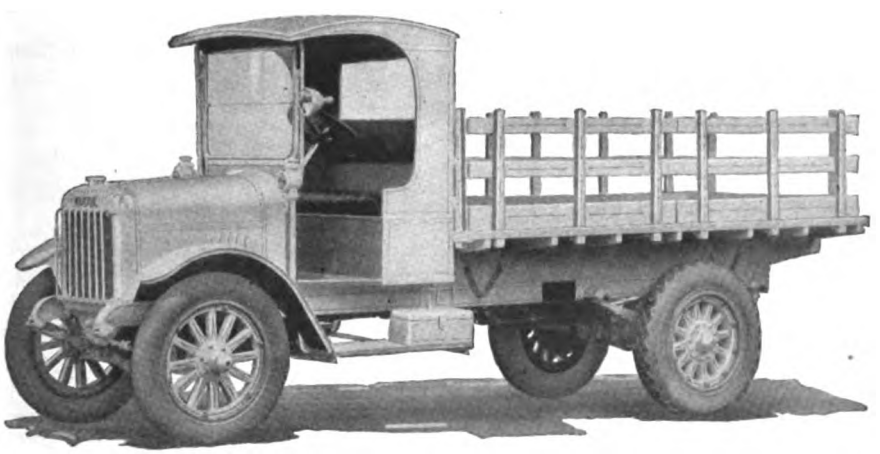
STANDARD MOTOR TRUCK CO., Detroit, Mich.

Palace Garage Co., Portland, Oregon

Continental Motor Co., Ltd., Vancouver, B. C., Canada

WOLVERINE

E. E. Gerlinger
Director of Sales and Advertising
Pacific Coast
112 Market Street
SAN FRANCISCO, CAL.



Some Good Dealers Territory is still open. If interested, wire or write at once, as all territory will be covered very soon.

The Truck of Good Service

An up-to-date truck in every respect which will give 100% service to the owner. Fully equipped with electric starting and lighting system including a searchlight.

MANUFACTURED BY

AMERICAN COMMERCIAL CAR COMPANY

DETROIT, MICH.

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Beats 'em all in the Beet Fields

With the great need of increased production of foodstuffs in mind, plus the fact that from 52 to 75 per cent of the total man labor required to produce a sugar beet crop is hand labor, even when horses are used, one realizes the advantage of the tractor. This year mechanical lifters, toppers and loaders have appeared. On the average, one man and two horses may lift about 1½ acres of beet per day; under favorable conditions one man and four horses may life 2¼ acres; while a tractor, hauling a four-row lifter, covers from 12 to 16 acres per day. Even as much as 30 to 40 acres per day has been lifted by one type of tractor-drawn power lifter.

Combined lifters and toppers also are tractor-drawn. This hastens crop gathering and harvesting. Finally, a tractor will haul the harvest to the railroad in one-half to two-thirds less time than horses. One 12 to 15-horsepower tractor, drawbar pull, will haul better and quicker than an eight-horse team.

Such results are of general interest, but also of particular interest to the farmer, as to relative cost. Too many people are blaming the farmer for the H. C. of L., whereas, if he makes 7 per cent on his investment, he is lucky. To him the H. C. of L. means the high cost of labor. The cost of labor for beet fields is not at hand, but back in Kansas, during the last wheat harvest, the usual wage was from $7 to $8 per day and board, and as high as $12 per day and board was paid.

A Cheap Tractor Course at One Dollar

The enrollment fee for the gas tractor course to begin September 16, lasting until September 25, at the University of California farm at Davis, is $1. The enrollment is limited to 180 students and the course is conducted by the College of Agriculture of the University.

Lecture demonstrations will be given on subjects such as gas-engine principles and types, fuels and carburetors, carburetor adjustments, ignition, high and low tension systems, magnetos, governor and cooling mechanism, lubrication, testing, horsepower rating, tractor types, adaptability and construction, tractor motors, tractor operation, valve timing, and adjustment of parts and engine trouble.

Practice work will consist of actual operation of 12 makes of tractors, with soldering, babbitting, pipefitting, forge practice, clutch adjusting, ignition timing, carburetor adjustment and trouble shooting.

Similar courses at Davis in 1916, 1917 and 1918 enrolled 442 students.

Transportation Engineering Comes In Handy

Many a railway traffic expert—the engineer who lays out the freight yards, or the man who, brought up in the business, studies moving trains with least lost motion—ought to make a good tractor farmer. There is opportunity for much saving of time, which is money, by preventing lost motion, or lack of motion such as having plows out of the ground while making turns. The idea [illegible] keep the implements in the ground as much as pos-

To this end it has been recommended that plowing [illegible] in the middle of the field, to help eliminate short [illegible], and to plow the outer edges last. This plan in[illegible]ase the number of acres which can be plowed in a day. [illegible] tractors turn more easily in one direction than [illegible]ct which should be studied in planning a

Wonders Done in Thirty-Day Nonstop Test

With climate to help, it has been proved that by using a tractor, not a big one at that, a season's work can be crowded into 30 days; plowing, disking and seeding, with the result that on eight acres, only part of the land used, there stood within the month a crop of cane over a foot high. During the test the tractor cut 220 acres of wheat, dragged 44 miles of road, plowed over 100 acres, also cut feed, sawed wood and did other farm work. In all, the results are alleged to equal that of a whole season on an ordinary 160-acre farm.

It was a "steady job," however. The tractor lost only 5½ minutes the first day, due to an inexperienced operator, after which it ran constantly, having three operators, each, with an assistant, working eight hours out of the twenty-four. The fuel was kerosene, and every 12 hours two gallons of oil were drained from the crankcase and two fresh gallons added. A small trailer, carrying a barrel of oil and one of kerosene, was kept near. Otherwise, only ordinary help and methods were used.

The test was made by the tractor agency, on land belonging to a farmer who consented to the test and who, after it was finished, of course bought a tractor for himself.

Books that Should not be Thrown Away

Don't "look a gift horse in the mouth." If you find a well-printed book in the bottom of the tool-box, when you buy a tractor, do not imagine that it was put there to absorb oil, or for files, etc., to work on. Read it. Study it. The chances are it took thousands of dollars and much laborious concentration, by skilled experts, or a great variety of more or less imperfect data, to compile it. After studying it, study it again from time to time, and use it constantly for reference. It will save you time and money. It will yield you a lot of satisfaction.

Useful Hint on Cold Morning Starting

"Winter" is coming. Leave off the quotation marks for the East, but leave them on for most parts of the Pacific Coast, where winter as it is known back East does not exist. There will be coolish mornings, though, in many sections, and the tractor motor won't start as easily as it might. Then—don't get out the monkey wrench and begin to make all sorts of changes. Too many become impatient and begin to tinker. Then real trouble may begin. The wiser way is to keep on cranking, in most cases.

Substitute for Sons Who Went to War

He's 73, is F. C. Myers of Covina, Cal. His grown sons went to war. When they returned they found Dad getting along so well they sought new fields for their endeavors. With the aid of his 12-year-old boy, who rides the implement behind the tractor which he bought while the other sons were away, Mr. Myers does all the work of the ranch except the orange picking and hauling.

Don't Let Oil Stand in Dusty Places

A clean, dry place is necessary for keeping tractor lubricants satisfactorily. Some operators let oils and greases stand unsuitably covered in dusty places, causing the oil to become gritty, thus wearing bearings when applied. Containers kept outside a closed building should be tightly corked and covered.

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The Majestic Electric Radiator and Engine Heater

No More Trouble in Starting on Cold Mornings

The MAJESTIC keeps your engine warm throughout the coldest nights—can be attached to any electric light socket—hangs from the radiator cap and sends a continuous stream of hot air through the radiator to the engine—will keep all the water within the cooling system warm in the coldest weather.

The Majestic Electric Radiator and Engine Heater is

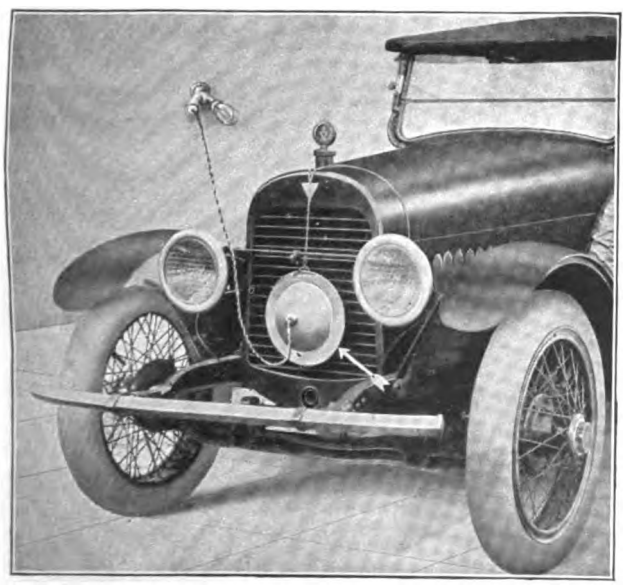
PRACTICAL—ECONOMICAL—EFFICIENT

The back is of steel, the parabolic reflector of pure burnished copper. It consumes but 200 watts per hour. Price complete with adjustable chain hanger, 8-foot cord and plug **$7.50**

Majestic Electric Development Company

656 HOWARD STREET, SAN FRANCISCO.

SUPPLY HOUSES AND GARAGES: The field for Majestic Electric Radiator and Engine Heaters is wide open Write for particulars



It is a Confession and not a Recommendation

when your neighbor tells you that he uses 32 candle power bulbs behind his automobile headlight lenses. He confesses that he is sacrificing one part of his car in the effort to produce satisfactory results with another part.

An automobile storage battery has a very short life. It is not the fault of the manufacturer. It is just one of those things that cannot be helped. Its life is short because it is called upon to do an over-burden of work.

Just how long your storage battery is going to give you service depends upon how you are going to treat it.

One of the most unnecessary forms of mistreatment is the use of headlight bulbs higher than 20 candle power.

If you are the most discriminating car owner in motordom you can secure a satisfactory driving light by using the Parab-o-light headlight lens with bulbs of 17 to 20 c.p. At the same time you will enjoy the comfortable feeling of being fair to your storage battery.

Tested and Approved by the State Motor Vehicle Department of Cal.

Insist upon getting the Parab-o-light.
Order through your dealer from

THE J. D. FRENCH COMPANY,

30-32 Davis St., San Francisco, Cal.

Pacific Coast Distributor.

Price per pair, $3.25 to $4.25.

Manufactured by

THE ZORGER LENS COMPANY

CHAMPAIGN, ILL.

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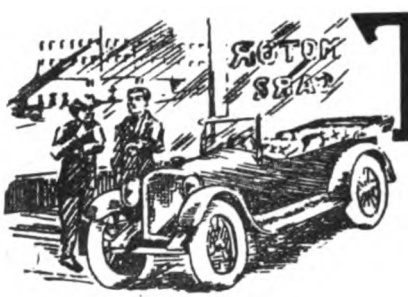

Trade Briefs and Factory Gossip

Allen and McGookin With Duratex.

The Duratex Co., Newark, N. J., manufacturers of Duratex Coated Fabrics, announces the appointment of Ralph S. Allen as general manager, with headquarters in Newark, N. J. Mr. Allen was until September associated with the Wagner Electric Co. in the Detroit territory, and is widely known in the automobile and accessory fields. The Duratex Co. has just recently opened a Detroit office, to provide facilities for handling the steadily increasing demand for Duratex Automobile Upholstery. The Detroit office is at 720 Book Building, with Earl W. McGookin in charge as sales manager of the Automotive Division.

* * *

Louis Chevrolet Becomes Engineer.

Louis Chevrolet, famous driver and designer of racing cars, now is consulting engineer in the William Small Co., which manufactures Monroe automobiles in Indianapolis.

* * *

Mark A. Smith with Midwest Engine..

Mark A. Smith has joined the staff of the Midwest Engine Co., Indianapolis in the capacity of sales engineer in the truck and tractor engine department. Mr. Smith was for years lubrication engineer of the Atchison Adhesive Graphite Co. and shortly before the war entered the employ of the Standard Oil Co. in charge of their passenger car lubrication department. He has been very successful due to his

MARK A. SMITH,
Sales Engineer Truck and Tractor Dept. Midwest Engine Co., Indianapolis.

wide experience as a practical internal-combustion engineer and is well known throughout the entire automobile industry, having been very active in S. A. E. matters for many years.

Boyce Buys Erwin Patent.

Negotiations have recently been completed whereby Harrison H. Boyce of the Moto-Meter Co., Inc., becomes sole owner of the fundamental Erwin patent, long recognized in the fire extinguisher field as basically covering automatic means of extinguishing fires under the engine hood of passenger cars, trucks and tractors. It is reported that Mr. Boyce is contemplating forming a new company for the exploitation of this invention, details of which will shortly appear in "Motor West." It is stated, by good authority, that the new fire extinguisher will have many important advantages over those already on the market, and will sell at a popular price.

* * *

MacManus Now in Own Building.

Theodore F. McManus, Inc., of Detroit, has moved into its own building at 44 Hancock Avenue East. The steady growth of the business made it necessary for Mr. MacManus and his associates to seek larger quarters, and the building at 44 Hancock Avenue East was purchased because it could be readily remodeled into a private office building, and because the premises provided room for future expansion. The main floor of the new building will be given over to the production department and the general office. The second floor will be occupied by the executive offices and the copy staff.

COLE MOTOR CAR CO. PREPARING TO DOUBLE THE SIZE OF ITS PLANT AND ITS OUTPUT FOR 1920.

To meet the increase in its business and to accommodate its production of Cole Aero-Eight motor cars to the demands of its distributor and dealer organizations, the Cole Motor Car Co., Indianapolis, Ind., is planning a factory more than twice the size of the present plant, and which will permit of a production of 12,000 eight-cylinder cars in 1920.

A new 4½ story structure of brick and steel 180 feet by 228 feet, is now under construction which when completed will house the factory service department, the shipping and receiving departments, auxiliary paint shops, machine shops, repair parts department, and the factory garage.

To the east of the present main factory building, a group of smaller brick structures will be razed to make way for an extension to the plant, 132 feet by 212 feet in dimensions and four stories high. With this addition the main factory building will have a total frontage of 232 feet and a depth of 385 feet. When complete, the new Cole plant will have more than 600,000 square feet of factory floor space and will be the largest industrial organization in the heart of Indianapolis. During 1919 the Cole Co. is assured of a production of a minimum of 6,500 Aero-Eight motor cars. Its gross business will exceed $14,000,000. In 1920 its production is set for 12,000 cars, with its gross business promising to exceed $30,000,000.

The present officers of the Cole Motor Car Co. have been at the head of the organization since its inception. They are J. J. Cole, president and general manager; J. F. Morrison, secretary-treasurer; S. J. Kuqua, vice-president. The personnel of the company includes J. E. Roberts, sales manager, H. R. Hyman, advertising manager, J. H. O'Brien, assistant to the president, J. F. Murphy, auditor, M. B. Covert, chief engineer.

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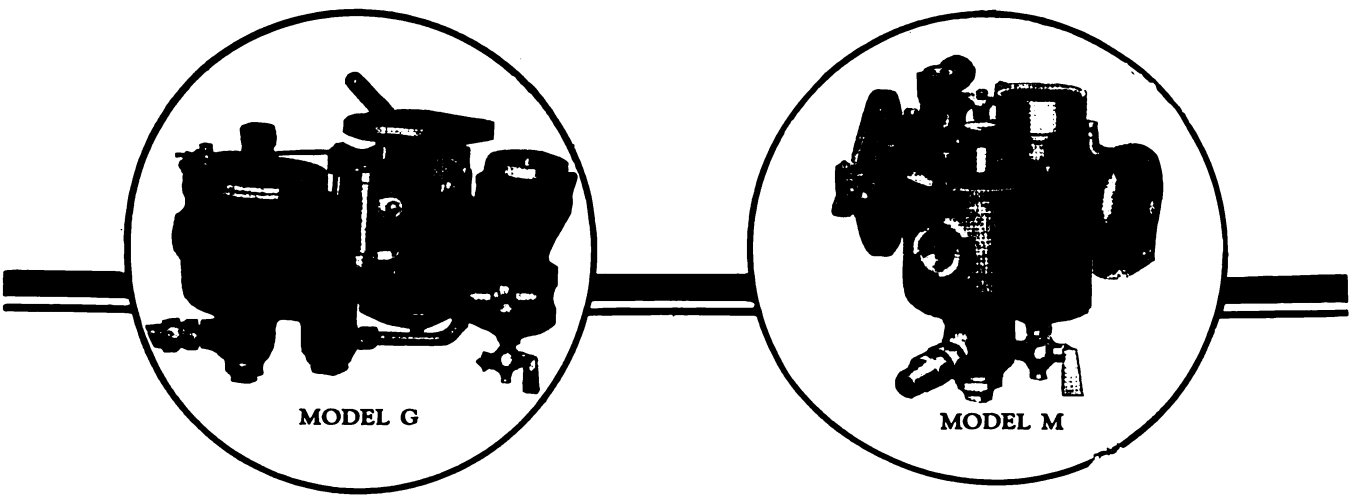
The Carburetor Makes the Motor Respond



When you step on the accelerator in an emergency and your car leaps ahead, it is the carburetor that makes the engine respond quickly.

The instant response of Rayfield carburetors can be depended upon at all times. There is no hesitating and no faltering.

This is a factor of safety just as important as the strength of the axle or the reliability of the transmission.

Rayfield response is due, first, to the superiority of its design. But the design would be of little use if it were not for the nicety of construction of each part, and the exactness with which they are assembled.

Naturally it costs more to build so good a carburetor. Motorists have found, however, that the greater cost is repaid many times by the absolute surety of their cars' performance.

BENEKE & KROPF MANUFACTURING CO.
Successors to Findeisen & Kropf Manufacturing Co.
21st and Rockwell Streets, Chicago, Illinois

7

RAYFIELD CARBURETORS

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BRANCH MANAGERS OF THE GILL MFG. CO. HOLD A CONVENTION IN CHICAGO.
During the week of August 24th the Gill Mfg. Co. held a convention of its branch managers in Chicago. As the Gill Company has branches in practically every important city from coast to coast, this was quite a gathering—over 50 men being present. The surprisingly successful sales season just passed naturally resulted in a very enthusiastic gathering. These Gill men seem to have developed a "winning streak" as a result of live business methods and enthusiastic sales work. The men inspected the ground which has just been broken for the new Gill factory to be built in Chicago, as it has been found necessary to have greatly increased factory space to take care of the demand for Gill Piston Rings, also the new Gill Aera Carburetor, which the Gill Mfg. Co. will place on the market immediately. This carburetor is of the constant vacuum type, absolutely automatic and will be somewhat of an innovation on the carburetor market. Success for the new carburetor is bespoken by the live representative selling organization which will be back of it. The photograph shows a group of Gill branch managers and officials at the close of the convention.

Trade Items From Detroit.

Detroit manufacturers are hoping the steel mills' assertion that the strike is not affecting them greatly is true. There is the alternative of banking on this and running to full capacity and risking having to shut down completely, or, running on curtailed schedule. The former is preferred by the factories and fairly howled for by dealers.

Plants which make most of their own parts sensed the strike and have enough material on hand or on the way for several weeks. They are going ahead full tilt. Some factories may have to ship cars short of full equipment, and send missing parts later to branches or dealers.

This is the situation in Detroit, Grand Rapids, Jackson, Flint, Pontiac, Lansing and Muskegon.

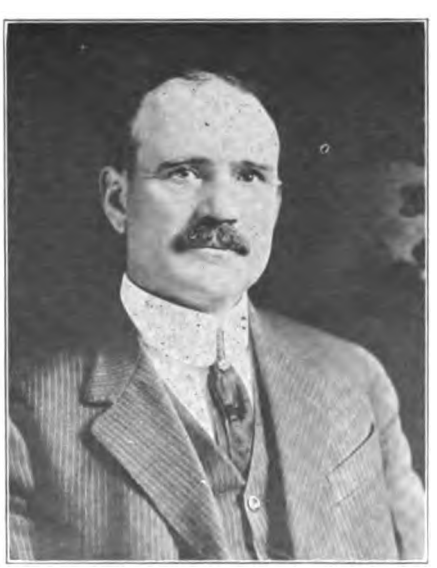
How Ford is affected the officials will not say, but Vice-President Klingensmith denied having laid off 4000 employes due to the strike, saying a few were laid off, with full pay, two hours during readjustment in the spring department.

Fortunately, from manufacturers' point of view, the number of strikers is not as great as it might have been, and many men who struck are returning to work. Still, it is affecting production and if it continues may be expected to put outputs considerably behind schedule, and may cause more increases in prices.

The Rolls-Royce chassis sells for $10,000. A branch of the celebrated English plant may be established in Detroit. At least, New York reports are that an American branch is to exist. Alfred & Co., New York bankers, announce they have agreed to finance it. The corporation is to be capitalized at $7,000,000. Its name may be Rolls-Royce of America, Inc., and it is said some of its personnel will be from abroad. The product will be practically identical with the parent plant. The Rolls-Royce aero engine, parts of which were made here during the war, will also be constructed on this side. American demand is said to be beyond the ability of the English plants to meet.

A noticeable feature of the Detroit dealers' show was the re-entry of the electric automobile, manufacture of which was curtailed even more than that of gasoline-driven ones during the war, it being more nearly a luxury. It has been some time since anything new in the design of electrics has been brought out.

The show also ushers in every conceivable type of enclosed car, and proved that chauffeur-driven machines will be in greater use than ever. The need of "a man on the box" is increasing with traffic congestion.



CHAS. W. NASH,
Who Will Direct Destines of Newly-Organized Lafayette Motors.

There's a hard winter ahead in respect to railway car shortage, which will not be alleviated on the whole by a new method of apportioning available ones according to monthly instead of four-monthly production reports from factories. For the innovation much credit is due E. N. Hodges, traffic manager of the Hupp and chairman of the Detroit district committee of the N. A. C. C.

Contrary to general prediction, it is hinted the new Lincoln Motor Car Co.'s product will be a lightweight. Another rumor, that the Packard twin six will pass when the new six is launched, is emphatically denied. The new car will not be ready for some months.

Interest is warm in the automobile to be manufactured in Indianapolis by D. McCall White, one of the world's foremost automobile engineers and designer of the original Cadillac eight engine. With him is E. C. Howard, formerly prominent in the Cadillac company. Rumor says the car will be an eight and retail at about $5000.

* * *

New "Lafayette" Backed by Nash.

Lafayette Motors Co., of Indianapolis, headed by Charles W. Nash, D. McCall White and E. C. Howard, is the latest important factor to enter the automobile market. It has been known for several weeks that Messrs. White and Howard were preparing to manufacture a high-grade car of Mr. White's design in a plant which they recently purchased in Indianapolis. The articles of incorporation, just filed, give the capitalization of the company as $6,000,000.

The basic organization is complete. Charles W. Nash, president of the Nash Motors Co., Kenosha, Wis., is president; D. McCall White and E. C. Howard are vice-presidents, in active charge; and James J. Storrow, of Boston, will act as chairman of the board of directors.

Mr. Howard was formerly general sales manager of the Cadillac Motor Car Co., Detroit. Mr. White is perhaps best known for his success as designer of the English Daimler and Napier engines, and the Cadillac eight in this country. Until recently he was vice-president of the Cadillac Co. Both Mr. White and Mr. Nash were prominent in the creation of the Liberty Motor, Mr. White as supervising designer and Mr. Nash as production manager. Mr. Nash will continue as active president of The Nash Motors Co., and it is understood that his association with the Lafayette Co. will be largely in an advisory capacity.

The car will have many advanced features and it is the present intention of the company eventually to produce all chassis units in the Lafayette plant. It is predicted that a Lafayette car will be displayed during the national shows in January. Officials of the company hope to be able to produce cars in quantity early next summer.

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SAMSON

Our **quality standards** do not admit of the slightest deviation from the highest attainable degree of excellence in workmanship and materials.

Samson Tires are **honest tires** thru and thru. They are built upon that age-old principle that honesty is the BEST policy —for laborer or manufacturer.

It doesn't pay to skimp--to sacrifice quality for speed, quantity and temporary financial gain.

The **honest tire** is the real money-maker in the end.

Samson Tire and Rubber Corp.

Compton, California

Dealers:

Samson Tires build solid trade. If you want to develop along stable lines — write for our attractive proposition today. Some choice territory open for a few live, energetic men who are SALESMEN.

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SCORED CYLINDERS

Repaired by **"Lawrence Patent Process"** with Silver-Nickel Alloy, fused electrically. No warping or enlarging of bore. Same piston and rings fit. All work absolutely guaranteed. Reshipped 24 hours after received. Endorsed by all manufacturers. Also burnt and oil scores repaired. Plants in all principal cities.

Established 1862

L. LAWRENCE & CO.

SAN FRANCISCO, 116 Hyde St. — LOS ANGELES, 1030 South Grand Ave.

All infringers will be prosecuted to full extent of the law.

Jay Dewey Lexington Sales Director.

Frank B. Ansted, president of the Lexington Motor Co., Connersville, Ind., announces the appointment of Jay Dewey as director of sales for the Lexington Minute-Man Six. Mr. Dewey, who formerly was district sales manager for Lexington, already has assumed his new duties.

* * *

N. A. D. A. Has Employment Agency.

An employment agency to place high-class automobile salesmen, sales managers, and service managers, has been opened by the National Automobile Dealers' Association with general offices in St. Louis. The service will be without charge to dealers who are members of the National Association, and to all employes of the automobile industry. The work of the bureau will be handled to fit the needs of the applicant into the needs of the employer. Dealers who are in need of high-class employes are asked to furnish a list of their needs to the general offices and employes who desire to make a change, and those who are temporarily out of employment, are asked to apply for application blanks which they will fill out and return.

* * *

Amazon Rubber Gets Miller Tire Man.

Robert M. Sanderson has resigned as superintendent of raw materials at the Miller Rubber Co. to become general superintendent at the Amazon Tire & Rubber Co., Akron, O. In five more days, Mr. Sanderson would have completed exactly 11 years of service at Miller. The Amazon Co. has recently added a number of people to its sales and production departments, and is now planning the erection of a new brick building to care for its growing business.

* * *

Hinkley Promotes Neville.

The announcement of Charles A. Neville as sales manager of the Hinkley Motors Corporation is announced by President C. C. Hinkley. Mr. Neville joined the Hinkley staff soon after the organization of the company. His promotion is the result of successful, result-getting effort in the Sales Department, of which he has now become the head. Mr. Neville assumed his new duties October 1.

* * *

Collins Cars Guaranteed by Test.

Certificates guaranteeing the perperformance of every individual car on the Long Island Motor Speedway, will be delivered to every purchaser of a car from Collins Motors, Inc., Huntington, Long Island. Each chassis as it emerges in its completed state from the factory, now in course of construction at Huntington, will be taken to the speedway and there put through a thorough test for speed by experts. Certificates will accompany each chassis.

JAY DEWEY,
Director of Sales Lexington Motor Co.,
Connersville, Ind.

ADDITIONAL CLASSIFIED.

MOTORLIFE
TRADE MARK REG.

Saves 25% to 50% Gasoline, removes carbon, produces motor efficiency and completes lubrication.

Motorlife is guaranteed harmless to any motor, under all conditions and in any quantity.

Purchase price refunded if Motorlife does not prove satisfactory.

Motorlife must eventually become part of your equipment. Why not now?

M. F. ENDERLE, So. Cal. Dist.,
306 California Bldg., Los Angeles, Cal.
W. H. A. SHERMAN,
Los Angeles Co. Agt., Phone Main 3903.

FACTORY REPRESENTATIVES.

"The Rolling Files do the work"
ROFILO
VALVE
GRINDER

H. A. BROWNING
Factory Representative
433 W. Fifth St.
LOS ANGELES, CAL.
Inquiries from Mfgrs. Invited

Enter the Willys Corporation.

Comes now a new Willys creation—the Willys Corporation, formerly the Electric Auto-Lite Corporation, of Toledo, O., which is acquiring the New Process Gear Corporation of Syracuse, N. Y., and the Dusenburg Motors Corporation, of Elizabeth, N. J., and which will manufacture a new, light six-cylinder passenger car to be sold by the Willys-Overland Company, through its branches and a special sales unit. This will operate in accordance with the purchase and sales contract recently made between the two companies. The new car is already developed and is said to have among its feature a spring suspension which is revolutionary. Fifteen million dollars' worth of the new corporations 8 per cent cumulative convertible sinking fund first preferred stock is being offered. It is convertible at the holder's option at any time, one share for two shares of common.

The Willys Corporation balance sheet shows current assets nearly five times as large as its current liabilities. The present business of its component companies are to be continued, in addition to the manufacture of the new automobile, and it is stated that net profits, after all taxes, should total not less than $15,000,000 annually.

* * *

Jordan Plant Increased One-Third.

The Jordan Motor Car Co., Inc., Cleveland, Ohio, has completed negotiations for purchasing the property and equipment of the Metal Parts Mfg. Co. This factory adjoins the Jordan plant in Cleveland, and will be used as a new Jordan production unit. The acquisition of this factory, which will be adapted for Jordan production, follows the recent completion of large additions to the original Jordan plant. These additions include a new assembly plant, office building, motor test building, japanning plant, and power plant. This latest acquisition to the property will increase by one-third the ground area occupied by the Jordan plant. It will, at the same time, make possible an increase of more than 30,000 square feet in floor space used for production.

* * *

Gen. Motors Takes Delco-Light.

The Domestic Engineering Co., of Dayton, O., makers of Delco-Light and farm lighting systems, has been merged with the General Motors Co. It will be hereafter operated as a branch, according to a recent announcement of W. C. Durant, president of General Motors, and E. A. Deeds, president of the Dayton firm.

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GILL

The Perfect One Piece Piston Ring

"Here is the ring I am going to put on your pistons. The Gill Piston Ring, the best made, and here is the reason why it is the best. Look at the joint."

The dealer or garage man does not have to ask the motorist to look at a Gill Ring twice for him to realize that he is getting the best on the market. You don't have to argue about the Gill Ring, one look at the double step interlocking joint is enough. You can see why it allows an expansion of from 1/8" to 3/16" before any loss of compression occurs. This allows the ring to adjust itself to worn, oversize or out of round cylinders within reasonable limits. If you don't carry the Gill Piston Ring now is a good time to get aboard the band wagon.

Send for the new Gill Piston Ring Size Directory, complete, convenient and full of just the information you need. It is free to the trade.

Dealers—Ask your jobbers about them
Jobbers—Write to us for information

The Gill Manufacturing Company
351 West 59th Street, Chicago, Illinois

Sole Foreign Agents:
AUTOMOTIVE PRODUCTS CORPORATION
Woolworth Building, New York, N. Y.

Pacific Coast Branches:
Gill Piston Ring Co.
1313 S. Figueroa St.,
Los Angeles, Cal.

Gill Piston Ring Co.
803 Van Ness Ave.
San Francisco, Cal.

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New Things in the Accessories Field

HYRATE CELL TESTER.

Waste of labor, waste of time and waste of charging current are problems that vex battery service stations every day. A considerable amount of re-charging current may be thrown away on a poorly working battery before it is discovered that it will not take charge—that it either needs repairs or is worn out. All car owners are not honest and many a rental battery has never been seen again by the service station which installed it because the customer failed to return when he learned the cost for re-charging his own battery.

Opportunities to sell new batteries, also, are often lost because the service station

SHOWS WHAT IS NEEDED TO PUT BATTERY IN CONDITION.

does not tell the customer that what is needed is a new battery. He seizes the opportunity to shop for prices and may buy from another competing service station while carrying the rental battery in his car. The Hyrate Cell Tester used in a battery service station tells the customer just what his battery needs and what it will cost. It saves its own and the customer's time by completing the transaction at the first interview.

The Hyrate Cell Tester consists of two special steel prods three inches apart at the points with the upper ends meeting in the handle and connected with a special nickel-chromium resistance. Between the prods and suspended on prods is the voltmeter, with an easily readable voltage scale. When using the Hyrate Cell Tester it is not necessary to take the battery out of the car. Also, the hauling of it into the shop, putting it on a bench and making discharge tests of doubtful accuracy are all done away with. The Hyrate device gives a voltage reading under high discharge conditions, which points out the condition of a bad or defective cell within a few seconds. The Hyrate Cell Tester is sold by the Service Station Supply Co., of Detroit, Mich.

NEW PHILADELPHIA STORAGE BATTERY AND PHILCO RETAINER.

Bringing with them the first announcement of the new battery guaranteed for two years, C. L. McWhorter, Pacific Coast manager of San Francisco, and T. O. Osborn, Los Angeles branch manager, have returned from the annual sales convention of the Philadelphia Storage Battery Co., which was held at Atlantic City. Mr. McWhorter says that if reasonable care is exercised, the Philadelphia Battery with the Philco Retainer will last indefinitely. The retaining feature in the improved battery is not a new principle in storage battery construction, but this is the first time that it has been successfully applied to starting batteries for automobiles.

The Philadelphia Storage Battery Co. has developed, patented and manufactured a type of retainer, perforated with slots instead of round holes as heretofore used. This has given the Philadelphia Battery unusual strength and durability. The new patented retainer as adapted to starting batteries does not in any way sacrifice voltage or capacity of the battery to gain the remarkably long life which is guaranteed to every user of the new battery.

COTTON GEARS HARDER THAN OAK.

To achieve maximum wear and absence of back-lash together with utter silence on light-running machinery, gears made of cotton duck have been developed, which are harder than oak or maple wood. These gears are made by laying sheets of the canvas flat, impregnating them thoroughly with bakelite and subjecting them to a pressure of 80,000,000 pounds.

Bakelite itself is a phenol compound, a substance similar to carbolic acid and having the property of hardening and forming an amber-like material which does not melt, burn, corrode or crack. It has great toughness and will endure a high temperature. Its dielectric properties—that is, ability to insulate against the passage of electric current—are high. It takes a very high polish.

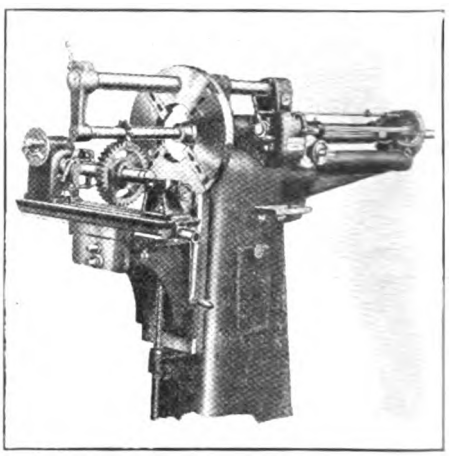
The material is supplied by its makers in solid sheets, blocks or bars, and is called Micarta. The gears are manufactured in the machine shop quite like steel or brass gears, first being turned to blanks and then having their teeth hobbed in.

One of the principal uses of Micarta is in the Splitdorf Aero magnetos, in which they serve as distributor gears. In this installation they operate practically without lubrication, the teeth taking a high polish and being softer than the steel pinion by which the gear is driven from the rotor shaft, with very little friction. Micarta is oil- and water-proof, does not burn and expands and contracts almost none at all.

GARAGE MACHINE OF ALL-WORK.

Boring, milling and drilling in garage and repair work may require three expensive separate outfits. The Kriesel Multi-Purpose Machine combines all three in one inexpensive machine and is declared to handle an unlimited range of boring, milling and drilling jobs accurately and economically.

It is possible to purchase the machine for boring and re-boring work only, and the milling and drilling features may be added later. The Kriesel Machine is designed especially for automotive repair work and is sold on a unique sales plan. The excellent combination of exclusive



KRIESEL MULTI-PURPOSE MACHINE.

territory and trade building service is unusual on this class of merchandise.

The trade building service is quite complete and is handled by experienced men in this line of work. Briefly, part of it consists in liberal supply of newspaper copy and cuts for display advertisements, special articles, handling and circularizing monthly of the entire prospect list of Kriesel owners, envelope stuffers, post cards, moving picture slides, street car cards, calendars, etc. The Kriesel Multi-Purpose Machine is manufactured by the Mill City Co., Plymouth Bldg., Minneapolis, Minn.

TAPLEX RADIATOR HEATER.

Freezing of the water in the radiator is the winter-driving motorist's biggest bugbear. A multitude of devices have appeared, claiming to prevent this calamity, some good, some injurious to the radiator and as deadly to it as freezing water. The Taplex Radiator Heater solves the problem in a very simple and efficient manner. Taplex fuel for the radiator heater comes in a box containing 12 sticks, each good to burn for between 12 and 16 hours. The heater attaches to the front of the radiator and presents an ornamental appearance, being of indestructible black japanned steel. The Taplex Heater sells for $3.50; the fuel for $1 additional. The manufacturers are the Taplex Corp., of Brooklyn, N. Y.

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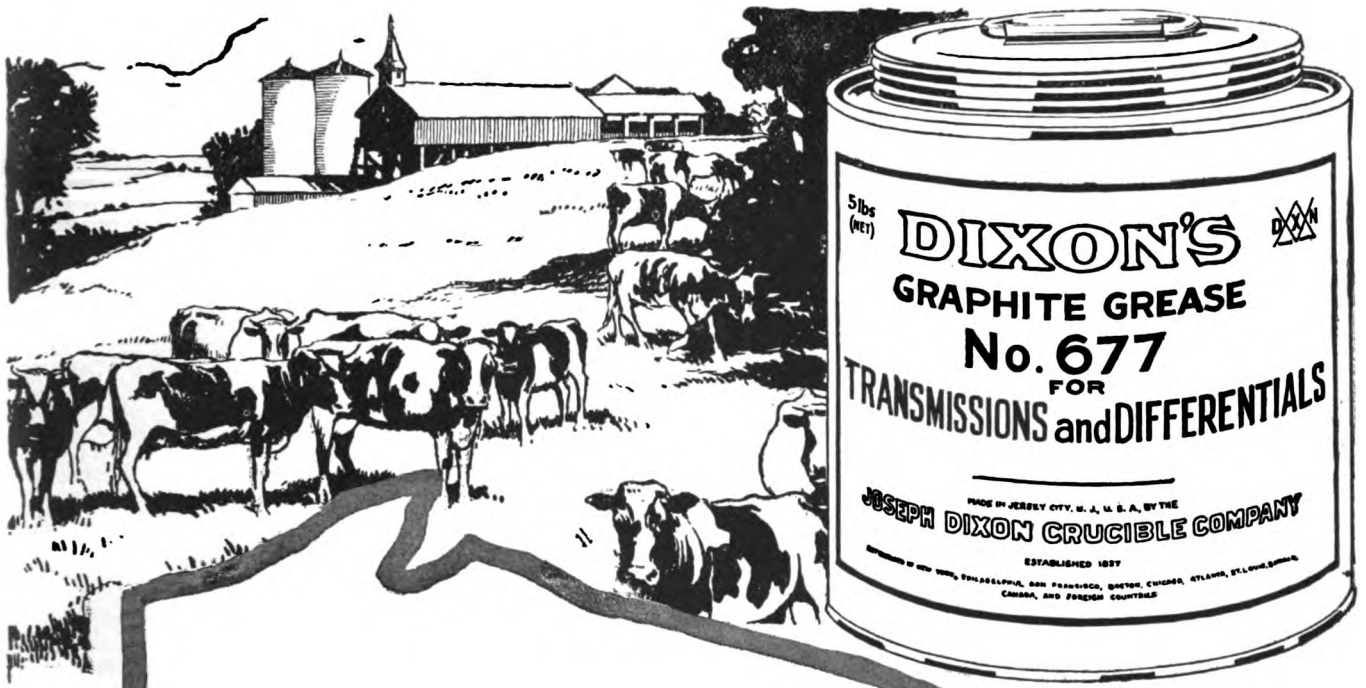

Wisconsin Is For It

We have been handling Dixon's Graphite Grease three years, and as we have not found any dissatisfied users during that period we can unhesitatingly recommend it.

We have received your co-operation in the way of advertising and sales help during all the time we had handled this material.

The Dixon line will be included again in our new catalogue, and we hope our pleasant relations may continue indefinitely.

Yours truly,

JULIUS ANDRAE & SONS CO.,
Milwaukee, Wis.

Hundreds of other letters from manufacturers, dealers and users are just as significant as this one.

Write for booklet 50-G

JOSEPH DIXON CRUCIBLE COMPANY
JERSEY CITY, NEW JERSEY
Established 1827

DIXON'S GRAPHITE Transmission and Differential LUBRICANT

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MAKES STARTING EASY WHEN MOTOR IS COLD.

Every automobile dealer has noticed that with the approach of cold weather the troubles and annoyances of engine starting have caused a great deal of dissatisfaction among his customers, and consequently he has been forced to give a good deal of service in which there is no profit. These dealers will be glad to know that there is now on the market a device which will enable them to turn those unprofitable calls into a source of good business. This device is the Rayfield Thermostat, made by the Beneke & Kropf Mfg. Co., manufacturers of Rayfield carbuhetors. The latest model has several improvements which make this device simple in construction and automatic in operation. It is easily installed on any automobile, truck or tractor on the top water connection where there is no possibility of clogging. It insures easy starting and does away with many of the troubles of a cold motor.

It enables the motor to warm up quickly by controlling the circulation of water through the radiator and motor block. Because the motor does warm up quickly, a minimum of unburned fuel escapes into the engine to dilute the oil in the crankcase and to form carbon in the cylinders and spark plugs. With this device on a car the spark plugs seldom, if ever, need cleaning.

The increased production made possible by the growing demand enables the company to put this thermostat on the market at a price within reach of every motorist, and at the same time allows the dealer a substantial margin of profit.

SECURITY AUTOMOBILE LOCK.

A steering wheel that spins around in his grip and front wheels that run "wild" in all directions at once is the discouragement offered to the automobile thief that tries to make off with a Ford car equipped with the Security Auto Lock.

With this lock on his car the owner merely turns the key in the lock located underneath the steering wheel, lifts the steering wheel, pockets the key and departs to be absent for an indefinite time, secure in the knowledge that his car is safe.

The Security Lock can be installed in 10 minutes at the most. Once on it cannot be taken off without the key. There are no changes to make on the machine, no filing or boring to do, as the device simply screws on.

WEDGERITE PISTON RINGS.

Any kind of fairly good piston ring, of plain or patented design, and properly fitted, will prevent serious loss of compression and power in the cylinder. The hard work, however, that they are called upon to perform will in a short time cause considerable wear on the bearing surfaces of the rings themselves, as well as on the grooves into which they fit flush with the piston.

As soon as this wear amounts to so small a fraction as 2-1000 of an inch the ring's efficiency is seriously impaired and thereafter steadily grows less. The result is that the pistons tend to syphon oil into the combustion chamber, spark plugs, valves and piston heads are fouled and power is lost.

Wedgerite piston rings meet all these difficulties by their feature of width expansion, which automatically takes up all additional wear and prevents piston slapping and ring knocks by the steady pressure of the ring against the groove walls.

They are manufactured from the very best materials obtainable for the purpose —a close-grained gray iron possessing softness, smoothness, toughness and elasticity. A complete Wedgerite ring is made up of three sections, two outer or bearing rings and wedge shaped ring of untempered spring steel. When placed between the other two this spring steel ring exerts a constant outward pressure against the inner beveled surfaces, wedging them apart and holding the ring against the groove walls with a constant pressure. The manufacturers are the Wedgerite Piston Ring Co., Inc., of Detroit, Mich.

THE BERRY SUPER "FLASH" PLUG.

Frank I. Francis and Al. Stoll, formerly with the Louis Taussig Co. for many years, are now manufacturers of a new idea in spark plugs. With their associates they have formed the Francis-Stoll Co., located at 1235 Van Ness Ave., San Francisco, and coincident with this issue of "Motor West" are in receipt of the first shipment of plugs from the factory. Hereafter they will be actively engaged canvassing jobbers, dealers and car owners in behalf of their product.

They state that their plug, which they term a "flash" plug instead of a "spark" plug, is making a wonderful record for itself wherever it is used, and are confident of an immediate and general popularity. As stated by them, they base their expectations on the claim that they have an insulation which is heat-proof, oil-proof, and almost unbreakable; that the plug has no points to spread or burn off, and that it gives a more complete combustion. It will be sold under a guarantee, and the firm, as an earnest of its confidence, calls attention to the fact that it is inviting motorists who have spark plug troubles, to try this plug subject to the guarantee.

According to many testimonials given Francis-Stoll, and of which they are proud, "super" is the only word which rightly describes the qualities of the plug. It is named after the inventor and is known as the "Berry."

Many car owners do not know it yet, but more every day are coming to know, that the electric current that fires the gas in the cylinder is caused by cutting the magnetic lines of force that exist between the poles of a magnet. Magnetism is a deep subject, but it may be simply stated that the greater the number of these magnetic lines cut, as by the armature in the everyday magneto or generator, the stronger the electric current that flows through the wires to the spark plugs. Therefore, the spark is hotter that fires the gas and the power greater that drives the car.

A hot spark means, of course, economy—more miles to the gallon of gasoline. The makers of the Rogers magneto claim from 100 to 300 per cent more magnetic area for their product than other types. The more lines of force concentrated in the pole the hotter the spark. Besides economy the hot spark means smooth operating engine, quicker acceleration and greater power.

A great place in the field of aviation for the Rogers magneto is looked for by George D. Rogers, of the Vita Mfg. Co., of Cleveland, O. It contains no moving wires nor revolving armatures. The breaker is of original and exclusive design and the condenser is puncture-proof and eliminates all pitting of the breaker points.

MOTOR WEST reaches a larger percentage of dealers than any other automobile publication circulated on the PACIFIC COAST.

CUTS TIRE-CHANGING TIME TO THREE MINUTES.

Tire changing is made a simple operation of three minutes' work, wielding no other tool than a screw-driver, according to the claims made for a new patented rim, the Michigan Liberty Demountable Rim. Manufacture of the rim will be carried on by the Central Machine & Tool Co., of Toledo, O.

The Michigan Rim is equipped with a link plate and rim section, whereby the rim may be collapsed, the tire laid around it and then the rim expanded into positive rigidity by simple lever action. It can be applied to nearly all standard types of demountable rims, without changing or interfering with the present wheel mountings.

When closed the rim presents a smooth unbroken surface, seemingly as rigid as a solid rim. Simple prying upward forces the three-and-one-half rim section out of place, the rim contracts and loosens from the tire.

Expanding and locking of the rim is made by downward pressure of the toe. All danger of collapse when the tire is inflated is thus eliminated.

The Central Tool & Machine Co. will manufacture the new rim, while the inventor, Michon, will conduct the sales to automobile makers and supply houses. The Michigan Liberty Demountable Rim, with all its advantages, will cost very little more than an ordinary rim, according to the company's manager, A. J. Verwys.

SALESMAN INVENTS DODGE LOCK.

Dodge car owners during the past few years have received much consideration from E. A. Olsen, of Portland, during his activities as a salesman for the Covey Motor Car Co., which handles the Dodge in the Oregon city. "The lock," says Olsen, "was originally built to lock the transmission in neutral and this is the theory around which most transmission locks are built.

"But a clever workman was able to drive the car away, though locked, by raising the floor boards and pushing the pins upon which the shifting forks are mounted into any gear desired, since the shifting lever was locked in neutral and could not interfere. This he did to the surprise of all concerned and to the benefit of future lock owners.

"As the construction was immediately changed so that the shifting lever locks in reverse, this now defeats the great objection, yet the car may be moved to comply with fire ordinances by holding down the clutch."

ACE-NUNN FORD STARTER.

The Ace-Nunn Starter eliminates all possibility of injury when cranking the car. Satisfaction and comfort are given at small cost, according to officials of the Ace-Nunn Sales Co., Monadnock Bldg., San Francisco. Dependability, simplicity and durability have caused it to be adopted by thousands of Ford car owners.

One to two hours' work with the ordinary car tools is all the time needed to install the Ace-Nunn Starter. It does not consume gasoline, nor take any power from the engine, and costs nothing to maintain. A boy, girl or woman can operate it and it will start any Ford car that is in startable condition. The Ace-Nunn Ford Starter is guaranteed to be free from defects of workmanship and material for one year from date of purchase.

This starter has already met with the favor of thousands of Ford owners on the Pacific Coast.

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THERE is about as much metal in a nickel as there is in a five dollar gold piece, and there is about the same amount of material in the ordinary tire as there is in a Kelly. But when it comes to spending the nickel, or trying to get Kelly mileage out of low-priced tires, the difference becomes apparent.

Your car
can be topped with

Genuine
Pantasote
Top Material

When it is, you have a most durable, a most beautiful and the most expensive of all top materials.

PIERCE ARROW	WHITE
PAIGE-LINWOOD	COLE
SCRIPPS BOOTH	REO SIX
MERCER	CADILLAC
COLUMBIA	PREMIER
LOCOMOBILE	HUDSON
CHALMERS	KISSEL

Look for Pantasote label inside the top—it protects you against substitution which is not uncommon.

The Pantasote Company
Bowling Green Building
New York

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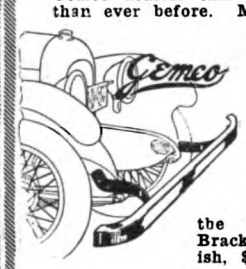
Says Jem Coe,

"Those New Spring Bumpers Seem to Enjoy Taking Bumps"

Motorists who have equipped their cars with the new Gemco Spring Bumpers don't have to worry about bumps. The car is protected front and rear by bumpers that are COLLISION-PROOF and even the bumpers themselves are practically unbreakable. Gemco dealers this year have sold more bumpers than ever before. Motorists are quick to see the advantages of the new spring type—supple curved springs that take up the shock and protect both car and bumper.



GEMCO
Spring Channel Bumper

Fits front and rear of standard cars. Combines the neatness of the Channel Bar with the efficiency of Curved Spring Brackets. Retail prices, Nickel Finish, $10.54; Black Finish, $9.48.

GEMCO
Spring Bumper

Universally attachable; fits standard cars front and rear. The strongest and most efficient bumper ever designed. Retail prices, Nickel Finish, $14.00; Black Finish $12.50.

Most bumps come from the rear—and bumps in the rear hurt. Don't be content to sell just one bumper to a motorist. See that he protects the rear of his car as well.

GEMCO
Fender Pan Bumper

An enclosed spring type for front and rear of standard cars. Easy to attach; does not interfere with splash pans or fenders. Diamond or channel bar. Retail prices, from $9.00 to $12.50. Hundreds of dealers find Gemco Bumpers their best sellers. If you are not stocked, ask your jobber or write direct to us.

GEMCO MANUFACTURING CO.

725 So. Pierce St., Milwaukee, Wis.

Seattle, Wash.—The agency for the one-operation retreading mold manufactured by Edward Harris, Inc., of Los Angeles, has been taken here by the Tri-State Tire Co.—Acting as exclusive distributor of Mohawk tires, the Rubber Service Co. has been opened at 1023 E. Pike St. by George C. Vogt, president.—The Seattle Engineering School will have one of the most modern one-story garages on the Coast, with 23,000 square feet of floor space and facilities for storing 216 cars.—The Stewart Tire Sales Co., 1424 Tenth Ave., has become agent for Polack solid truck tires.—The Day-Eldridge Motor Co., of Montana, has leased a building at Broadway and Union St.—A new two-story building at Melrose and Pine Sts, will be occupied by the Keating Tire & Rubber Co., the Beardsley Accessory Co. and the Motor Distributing Co.—Allen G. Fisher, demobilized Coast artillery lieutenant, now heads the service department of the William L. Hughson Co.

Tacoma, Wash.—The Sound Body Works has been opened at 2311 E. D St. by D. A. Kelley and Byron Churchill.

Kelso, Wash.—The Kelso Garage is having a new garage built for it, with 7,000 square feet of floor space.

Stockton, Cal.—Thomas E. Fisher has bought a half-interest in the Travelers' Garage.

Lemoore, Cal.—E. L. Hancock has bought the Lemoore Garage.

Modesto, Cal.—The Carter Tire Co., of San Jose, has opened a branch here, with F. J. Andrews manager.

Albuquerque, N. M.—John F. Kelley has bought the American Garage.

Vernal, Utah—The former building and equipment of the Uintah Motor & Garage Co. has been bought by Tom Wilkerson, H. A. Pehacek and G. A. Jedlicka, who will operate a car agency and a high-grade repair business.

Rupert, Ida.—John Tollefson, of the Rupert Auto & Supply Co., has sold a half interest to R. B. Turner.

Blackfoot, Ida.—R. E. Hanson has bought the 3-A Garage.

Jerome, Ida.—Hill Garage, until recently operated by Oliver Hill, has been bought by W. W. Wilson and W. S. Paul, who have incorporated it as the Jerome Auto Co.

Reno, Nev.—C. E. Carrico has bought entire ownership of the Lincoln Garage from his partner, T. J. Anderson, and together with D. G. Chessman and H. P. Hoover has incorporated it for $50,000.—The Sierra Auto Supply Co. will have a four-story brick and terra cotta sales building erected for it, costing $60,000.

Spokane, Wash.—Beegly & Churchill will locate their business, the Auto Salvage Co., in the former St. George Apartments, remodeled to suit their requirements.—The Yuba Tractor Co. of California will open a factory branch here in charge of C. E. Witherell and carrying $50,000 worth of parts; it will supply Oregon, Washington, Idaho and Montana.

Oakland, Cal.—Building of automobile trailers will be among the activities of the Occidental Mfg. Co. & Supply Co., incorporated here for $100,000 by Harold Harven, Edna E. Smoot and C. C. Smoot.

Reno, Nev.—The Acme truck agency has been taken by Steinheimer Brothers.

Phoenix, Ariz.—The Apache Garage has been opened on W. Adams St. by G. M. Anderson.

Glendale, Ariz.—J. R. Pearce has opened a garage here and will handle Kelly-Springfield tires, Dodge parts and accessories.

Madera, Cal.—C. A. Chamberlain will have a new $20,000 garage built for him.

Fresno, Cal.—K. and Harry Arekelian will have a two-story concrete garage, costing $75,000, built for them here.

Join the Ship-by-Truck Movement.

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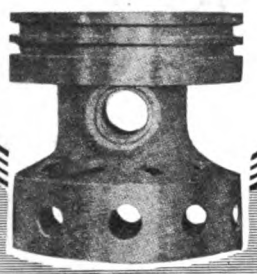
ZEPHYR PISTONS

(PAT.)



DURABILITY POWER SPEED ECONOMY

ZEPHYR pistons hold many records of world interest since 1910 when they established world's record of 100 miles per hour for three consecutive hours.

ZEPHYR pistons were used in the Atlantic flight by Alcock-Brown, also in the R34 in its 6,000 mile flight from England to America and back.

The World's Best Piston Since 1910

The Wridgway Company Inc.

HALLSTEAD, PENNA.

Send for Booklet

DURABILITY POWER SPEED ECONOMY

U.S.PATENT 975301

THE SIGN

OF SERVICE

The True Economy of Ahlberg Service

In these days when costs are rising Ahlberg Reground Bearings are saving Repairmen, Fleet-owners and dealers large sums.

The Ahlberg Reground Bearings gives exactly the same service as any new bearing will give—yet the cost is much less than the cost of new ones.

Don't throw your worn bearings away — they are worth money.

Write us at our nearest branch for details. We can save you money on both new and reground bearings.

Ahlberg Bearing Company

325 W. Pico St., Los Angeles, Cal.

BRANCHES:

PORTLAND, OREGON
SAN FRANCISCO, CAL.

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RAYFIELD CARBURETORS

OUR GUARANTEE:

Regardless of makes of car or type of carburetor in use, we guarantee the RAYFIELD Carburetor to give the following results:

Easier starting, a lower throttled motor, faster acceleration, more speed, greater power on the hills, a smoother, more flexible motor, and without changing the adjustment, from 20% to 50% more miles per gallon.

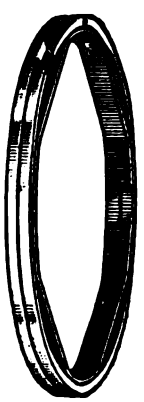
E. A. CORNELY, Inc.
1445 BUSH STREET, SAN FRANCISCO,
Distributors for Northern California.

EISEMANN MAGNETO

Powerful
Durable
Dependable

Standard Equipment of 140 Manuf'turers

The Eisemann Magneto Corporation, 32 33rd St., Brooklyn, N. Y.
Chicago, 910 S. Michigan Ave. Detroit, 85 Willis Ave., West.



Piston 3-A Rings

The STEEL Ring with the SPRING INSERT
Even pressure all around. No loss of compression or leakage of oil.

Guaranteed—absolute satisfaction or your money back. Write for Booklet and Trade Proposition.

Steel Spring Piston Ring Co., Inc.
147 Metropolitan Ave., Brooklyn, N. Y.

A
PEX
Motor Oils
THE HIGHEST POINT OF EFFICIENCY
Gasoline "with the Punch"
PUENTE OIL CO.
Oldest Refiners and Producers on the Coast

Portland, Ore.—R. W. Bush has come from the Ford factory to act as assistant manager at the branch here.—The Pacific Northwest distributing agency for American-Akron tires has been secured by the P. J. Cronin Co.—Louis von Klein has been appointed manager and T. W. Feeheley, sales manager of the Auto Sales Co., Auburn car distributors.—The Rubin Motor Car Co., King Eight agency, has had its territory enlarged to include Western Washington and Seattle.—Will J. Lester has sold the Belmont Garage, E. 23rd and Morrison Sts., to E. D. Blackman & Son.—The Ahlberg Bearing Co. has moved to 409 Burnside St.—F. S. Harmon & Son now operate the Richmond Garage under the name of Harmon & Co.—R. W. Lee & Co. have moved their electric shop to 450 Stark St.

Albany, Ore.—The Day Motor Co. is to have a $10,000 brick garage built for it.

Klamath Falls, Ore.—George Biehn, Ford dealer, will erect what is expected to be the largest Oregon garage outside of Portland; it will be two stories high and cost $12,000.

Oroville, Cal.—Allen & Davidson, dealers in Chico, have opened a branch here; Harry Davidson, partner in the firm, will have charge.—G. E. DeLong, of the Oroville Garage, has taken the Oldsmobile agency.

Lakeport, Cal.—A. R. Crawford has sold Fraser's Garage to Clarence Burris and Guy Smith.

Sebastopol, Cal.—Charles Burroughs has bought the machine shop department of the Sebastopol Garage; McCaughey Brothers retaining the sales and garage departments.

Biggs, Cal.—F. O. Harry has become Kleiber truck agent.

Benicia, Cal.—The Benicia Garage will have a fine new building erected for it.

Sacramento, Cal.—The Crowder Auto Sales Co. has located in its new modern building on K St.

Eureka, Cal.—F. H. Lundblade is having erected for him another garage building to house the Cadillac and Pierce-Arrow agencies.

Stockton, Cal.—Ellsworth & Co. have taken the Samson tire agency for this territory.

Modesto, Cal.—Adjoining their present garage Bagby & Mott will erect a three-story sales and garage building costing $30,000.

Fresno, Cal.—The Doyle-Gearhart Tire Co. has been formed here; capital stock, $25,000; incorporators, H. S. Doyle, James W. Gearhart and P. H. Bottoms.

Burlingame, Cal.—The Severn Lodge Garage, one of the largest here, has opened on San Mateo Drive.

Vallejo, Cal.—The Rex Garage has been taken over by Walter McKenzie and George Blanco.

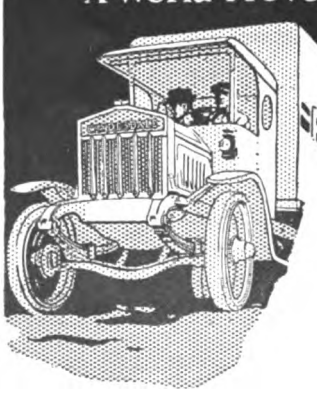
Napa, Cal.—The International Harvester line of trucks and farm implements will be handled here by Rose, Stevenson & Emerson.

Holtville, Cal.—O. C. Harris has sold the Liberty Service Station to Guy Chambers.

Imperial, Cal.—Charles Merrill has again become Imperial Valley agent for the Kissel car.

Santa Ana, Cal.—The Orange County Tire Co. has been sold by C. G. Illingsworth to Paul Carnahan.

CLYDESDALE
A World-Proven Motor Truck



The superstandard construction of the Clydesdale, with its oversize and overstrength parts, and its excess power has made it famous in thirty countries, from Iceland to Africa, in all climates, on all varieties of roads, with all sorts of drivers.

One to Five Ton Capacities.

Clydesdale Motor Trucks
Built in Clyde, Ohio

Puget Sound Motors Co., Tacoma, Washington.
Rochester Motors Co., Spokane, Washington.
Pacific Motor Truck Co., Los Angeles, Cal. (11)

Clyde Cars Co. Factory Branch: 1217 Market St., San Francisco

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HI-TEST LUBRICANT

AS NO CDCR
MPERVICUS TC WATER
AKES THE DRAG OFF MOTOR
ASIER RUNNING
aves You MONEY
RIED AND PRO-VEN

MANUFACTURERS
United Products and Sales Corp.
512 Second St. :: San Francisco, Cal.

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Absolute Satisfaction

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Not the Cheapest in Price, but the Best in Service

FACTORY BRANCHES:

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Automotive Equipment

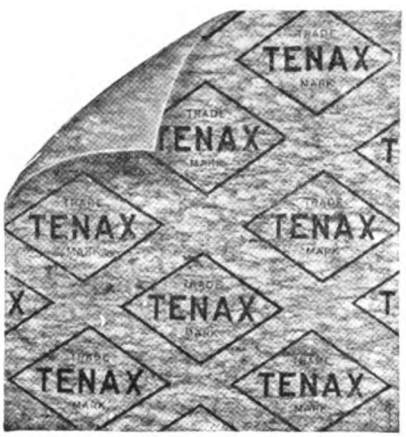
and Asbestos Products

—Greater Service at Less Cost—

We render a degree of service and supply a quality of material that bring our customers back year after year and that explains our supplying America's most desirable automobile, tractor and engineering trade. You will enjoy with us, a more reasonable price and better satisfaction than you have ever before received.

TENAX **Compressed Asbestos Sheet Packing**

The Original Blue Sheet



Ideal for any joint. Tenax is permanent whether subjected to gas engine exhaust, cylinder explosions, acid, alkali, superheated steam or any other active agent. Can't burn, rot or squeeze out.

The finest packing made for Automobiles, Tractors, Gas Engines and Steam Engines.

Sheets 50 inches square. Thickness 1/32 inch to 1/8 inch, inclusive. Also in 1/64 inch thickness in black graphited sheet only.

Pack with Tenax and forget the joint forever.

Adpasco Treated Gasket Paper

SUPPLIES A NEED—MEANS A SAVING

A thoroughly waterproof paper toughened and especially treated to make it excellent for all automotive uses except in contact with burning temperature. A big value for general use around garages and shops.

Cuts up easily with no waste and holds its shape even after a water or oil soaking. Stands up indefinitely and is permanent in the hands of a good mechanic.

Sheets 36 in. by 40 in. Samples on request.

ADPASCO TREATED GASKET PAPER

YOUR OWN JOBBER

can supply you. Ask him for our products or write us direct for name of nearest jobber.

Get Our New Automotive Supplies Catalog From Your Jobber or from Us.

Advance Packing & Supply Co.

17 N. Franklin Street, Chicago, Ill.

Allied Industries, Inc., Pacific Coast Representatives:

283 Minna St., San Francisco, Calif.
340 Azusa St., Los Angeles, Calif.
1252 First Ave., So., Seattle, Washington.

San Francisco, Cal.—Schmeider & Doty have bought the Lundy Garage, whose name will be changed to Fredericks Garage.—The Downtown Garage has been taken over by Easton & Lehre; R. L. Easton is president; George Lahre, vice-president; and A. J. Lehre, secretary-treasurer.—T. H. Elkington, Miller carburetor distributor, has opened a new sales room on Post St.

Alameda, Cal.—James P. Smith has bought the interest of his partner, Oscar Prall, in the Encinal Garage.

Petaluma, Cal.—Earl B. Snyder has opened the Highway Garage.

San Luis Obispo, Cal.—The D. & L. Sherwin Co. has succeeded the Overland Lynn Co. and will continue the Overland car and Diamond T truck agencies.—J. M. Gray and H. Litton have bought the Metropolitan Garage from the W. A. Rideout family, changing the name to the Mission Garage.

Santa Ana, Cal.—Edgar &Hayes, Oakland agents, have added the Globe tire line.

Hollywood, Cal.—F. E. Wright has taken the Cole Aero Eight car agency.

Riverside, Cal.—The Fageol truck and Fageol tractor agencies have been taken by A. Difani & Sons.—Malone & Buchanan have opened an automobile and truck garage and repair shop on E. Eighth St.—G. W. Chatham and T. W. Snyder have opened another new and up-to-date oil and service station at Seventh and Market Sts.—Parker's Garage on W. Tenth St. has been opened by M. J. Parker.—The Guarantee Welding Works have been bought by H. T. Lewis.—C. B. Rome is operating the Central Garage, 757 Orange St.—Kay & Burbank, of Los Angeles, Exide battery distributors, have opened a branch station here.

Bakersfield, Cal.—Hayes & Murray have taken the Kern county agency for Mason tires.

Brawley, Cal.—The Imperial Valley agency for Miracle Gas Tablets has been taken by M. Akeryson and will open branches.

Los Angeles, Cal.—The California Truck Corp. has been incorporated for $10,000 by Lucas Fisher, Chris Buerner and W. C. Williamson.—The Western Mechanical Works has bought out the Jauch-Toolan Mfg. Co.

Orange, Cal.—The Santa Ana Radiator Works has opened a branch here.

Pomona, Cal.—Stone & Morse will handle Hudson and Essex cars.

Anaheim, Cal.—Charles J. Menno has taken the agency for the Diamond Stop & Turn Signal.

Hollywood, Cal.—The Hollywood Mission Garage is being enlarged by a $7,000 addition.

Long Beach, Cal.—The Oakland agency has been opened on E. Fourth St. by Marsh & Robinson.

Albuquerque, N. M.—Jack O'Connell has sold a half interest in the O'Connell Motor Co. to Harry Harrington.

Payette, Ida.—A new garage, with 9,000 square feet of floor space and expected to be one of the finest in the state, will be built for the Motor Service Co.

Cottage Grove, Ore.—Woodson Brothers are building a garage for themselves which will be one of the most up-to-date in Oregon.

Pasadena, Cal.—Brown & Butler, of Los Angeles, will open a finely appointed branch store here dealing in used cars.

Redondo Beach, Cal.—A. J. Ford has bought the Ocean View Garage from B. E. Savage.

Los Angeles, Cal.—The Ehman Tire & Rubber Co. of California has been formed with $10,000 capital stock by Ben Wold, C. P. Turner and H. S. Turner and new quarters have been opened at 928 S. Broadway.—A. E. Lockwood, 1032 S. Grand Ave., has become agent for the Kozy Wing Wind Deflector for the whole United States.—The Damon Specialty Co. has incorporated for $100,000; Wm. H. Damon, F. H. Case and F. E. Eisner are the directors.

NO CARBON - MORE POWER - LESS FUEL Price 50c up

On market 5 years. Over 10,000,000 in use. Every set guaranteed. Popular thru service. Don't rebore cylinders. "NO-LEAK-O" makes good when others fail. Made different. Gives results no other ring can. Write for booklet. Order from nearest Jobber, or write direct.

Beware of infringements. All is not gold that glitters.

NO-LEAK-O PISTON RING CO., Baltimore, Md.

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"and the Motor's a Wisconsin"

CONSISTENT

"A WISCONSIN" —this means that the engine, was perfectly fitted, adjusted and run in **before** it left the Wisconsin shops. Think that over, Mr. Manufacturer, Mr. Dealer and Mr. User. WISCONSIN Engines are **priced** higher, but cost less than others—less to install—less to sell—less to use. Write for description.

Wisconsin Motor Mfg. Co.

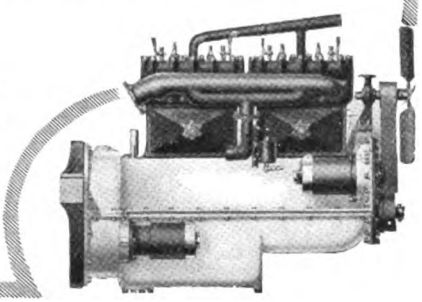
Station A, Dept. 314, Milwaukee, Wis.

Pacific Coast Distributors:

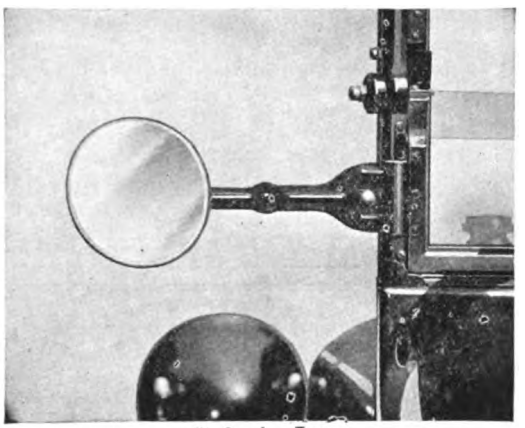
Earl P. Cooper Co., 1310 So. Los Angeles St., Los Angeles, Cal.

W. F. McKenney, 68 First St., Portland, Ore.

Chandler, Dunlap Co., Seattle, Wash.



Hindview Auto Mirrors



Style A—Long

The "Hindview" Auto Mirror prevents accidents by enabling the driver to keep an eye on the rear traffic without losing sight of the road ahead. The Ball Joint allows immediate adjustment to any desired angle without the use of any tool.

Write for descriptive folder showing complete line.

A. E. MOHRIG, 340 Phelan Bldg., San Francisco, Cal.
Pacific Coast Representative

Kales Stamping Company

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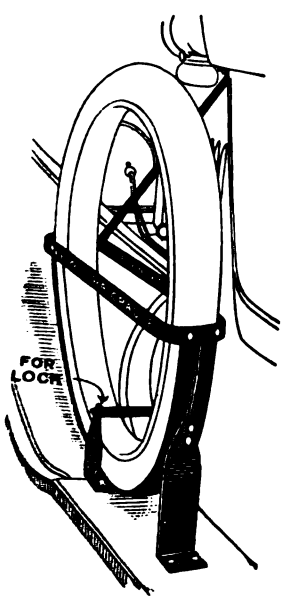
New Era Cradle



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OF INTEREST TO THE OWNER

CARE OF WATER PUMP WILL ELIMINATE MUCH OVER-HEATING.

It pays to inspect the water pump once in a while. Should the pump fail, then the engine over-heats, the cylinder walls may score and the car or truck owner has a damaged engine.

The first thing to make sure of is whether the pump is working properly. The engine must be running, of course, to determine this. If the pump is working properly the water in the tank will be in motion; if it has failed, the water will not be circulating.

On some radiators this test is not possible, due to radiator design. One sure test is to hold the hand at the bottom of the radiator. If it is cool the water is not circulating and the pump is of course out of order. The propeller may perhaps be loose on the shaft. When replacing the cover a new gasket will be necessary.

Lubrication in connection with the water pump deserves to get more consideration than it usually does. When a grease cup is provided it is to lubricate the pump shaft, which runs at a high rate of speed. Oil should never be used in place of grease, as it runs into the cooling system and does not stay where it is needed. It actually interferes with cooling, and will help rot the rubber hose at the top and bottom of the radiator.

Another detail of care is to re-pack the stuffing box around the pump shaft after the packing is used up. The box will begin to leak as the packing wears. Turning the nut with a wrench just enough to stop the leak is sufficient. Turning the nut too tight, on the other hand, may score the pump shaft. The packing will finally wear out and then the cover must be removed and new packing put in, preferably graphite asbestos. It should be forced in evenly and the cover replaced. Not until several months later should repacking be necessary.

If tightening of screws does not remedy pump leaks, a new gasket is needed. This may be cut from wrapping paper in the shape of the outline of the cover and then carefully fastened with shellac to prevent leakage.

TOE-IN OF FRONT WHEELS.

Careful and correct aligning of the front wheels quickly gives its reward in added tire mileage. Probably the most important detail in wheel alignment is the toe-in of the wheels. Automobile wheel and axle designers specify ⅜-inch as the proper toe-in. The slightest excess over this may mean many dollars lost in mileage.

Nearly all cars today have the steering wheel on the left and improper toe-in will place the right wheel at the mercy of the left. The left wheel is guided directly by the steering gear and in turn guides the right. The steering knuckle may have too much play, permitting the right wheel to wobble and the effect on the right wheel tire is almost the same as working it on a grindstone.

The toeing-in of wheels is one of the ideas handed down to us by the old carriage makers. They decided then that the proper toe-in, or rake, was ⅜-inch for all wheels of 36-inch diameter and up. Their highways then were roads and built level. Our highways are built with a crown, which means that the right front wheel gets the hardest use from loose motion caused by the steering knuckle, since traveling on the right side of the road causes the right wheel to run at a decided angle.

Greater tire mileage can be obtained by changing the toe-in. To offset defects the toe-in might be made ⅛ inch, not more than 3-16 inch, according to the advice given by some very competent mechanics.

DUSTING OF NEW CAR SHOULD BE DELAYED.

The finish on many new automobiles is permanently damaged because the owners do not use proper care in dusting and washing. A new car should never be dusted until the paint has set. Nowadays this is especially true. Cars are scarce and are rushed from the factory to the owner with as little delay as possible. Dusting a new car leaves small scratches and these can never be worked out of the paint.

Never wash a new car while the engine is hot, or the car warm from standing in the sun. Nothing dulls the finish quicker.

A very satisfactory way of treating the paint on a new car is to avoid dusting it entirely for a few weeks. When it becomes dusty wash it off with a slow stream of cold water, being sure at first that the body is cold. Rubbing should be avoided; all dirt should be removed with water.

The car may be dried with a damp cloth. After the car has been washed thus half a dozen times it will stand light dusting, preferably with cheese cloth slightly oiled.

PROPER PRESSURE FOR TIRES.

The pounds air pressure necessary in a tire is nearly always to be found moulded on its side, but repair shop statistics show that 75 per cent of all tire troubles are due to insufficient tire inflation.

An easy method for remembering how much air a tire should have is to fix in mind the fact that the proper amount of air pressure increases in the ratio of 10 pounds for each half-inch of increased size. Starting with a 3-inch tire the pressure should be 60 pounds. The table of air pressure to tire size runs as follows:

3½-inch	70 pounds
4 -inch	80 pounds
4½-inch	90 pounds
5 -inch	100 pounds
5½-inch	110 pounds
6 -inch	120 pounds

BEFORE BLAMING CARBURETOR, LOOK ELSEWHERE.

Why blame the carburetor for every ill? It isn't fair, nor wise. Most of the trouble is elsewhere. Poor compression means poor carburetion. Using self-starters removes opportunity to know the engine's condition from day to day, resulting in valves, pistons and rings deteriorating.

Most machines now have battery ignition, in which workmanship and material may be far below that of the high grade magneto. Breaker points should be even and have good surface contact. Distributors with steel contact brush and fiber disk with steel segments tend to wear both the brush and the whole surface of the disk. This, with the tendency of the high tension current to arc, puts the black residue on the distributor disk.

Plugs must be good. The insulator must extend well into the core protecting the center electrode, which must be small and short. The insulator must be heat resisting and the electrode of a high grade that will hold its conductivity.

Overheating seldom is due to carburetion—mixture burns hottest and is easily detected long before overheating. Late spark timing or poor water circulation generally are to blame for overheating.

As to the carburetor, a leaky check valve or punctured float may cause the vacuum tank to fill so the vacuum tube delivers pure gasoline into the manifold, resulting in rich mixture even with the smallest jet. Air leaks in carburetor or manifold joints are noticeably mostly at low engine speed. If the engine needs an idling jet much larger than standard, and valve guides are not badly worn, take blow torch and spray gasoline around all joints. Engine speed will increase when gasoline touches the point of leakage.

DON'T YELL AT FELLOW WHO BURNS LIGHTS IN DAYTIME.

Many motorists do not know that there is as much danger in letting their batteries get overcharged as there is in letting the charge run too low. Overcharging is very likely to happen during long runs when the car is operated at 20 to 25 miles an hour for a number of hours continuously. At this speed the generator is delivering current to the battery at its maximum charging rate, according to F. S. Armstrong, sales manager of the Vesta Accumulator Co., manufacturer of Vesta storage batteries.

An overcharged battery overheats, with the result that the active material in the plates loosens and falls to the bottom of the battery, shortening its life. Most cars have an automatic cut-out in the electrical system which is supposed to prevent overcharging, but this, like many automatic devices, sometimes fails to work at the proper time. The safe way is to burn your lights, at least part of the time, when on a long drive. This takes the load off the battery and insures against overcharging.

The next time you see a motorist driving along the street at high noon with his lights on, don't yell at him. He probably knows what he is doing, and his battery will last longer than the other fellow's who is not wise enough to take this precaution. This idea is one which motorists would do well to adopt. In fact, most automobile manufacturers advise this procedure in their construction books which, apparently, automobile owners seldom read carefully.

CLEANING RUSTY RIMS.

When rims are rusty, says Kant Slip, they should be scraped with a sharp tool, pounded with a wooden mallet until all flakes of rust have been battered off and then sandpapered vigorously. The rims should then be painted. Shellac is sometimes recommended for this purpose, but is not satisfactory, as it peels off in a short time. Graphite paint or even ordinary paint is much more serviceable. Tires should not be replaced on the rims until the paint is entirely dry, as this might cause them to stick.

PRIMING CUPS ON THE FORD ENGINE.

When it is a question of putting prime cups on the Ford engine most repairmen will advise putting them on the side rather than on top the engine, as is commonly done with other cars.

The reason is that on the Ford engine it is necessary to drill through the water jacket to reach the inside of the cylinder. The priming cups, however, can and usually are combined with the spark plugs and there are numerous priming spark plugs on the market.

But if special cylinder head bolts are used the cylinder head may be safely drilled from these bolts, equipped with priming cups, to the inside of the cylinder.

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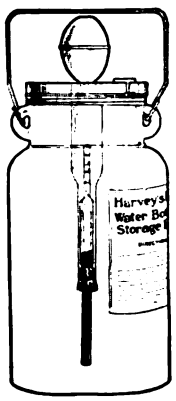

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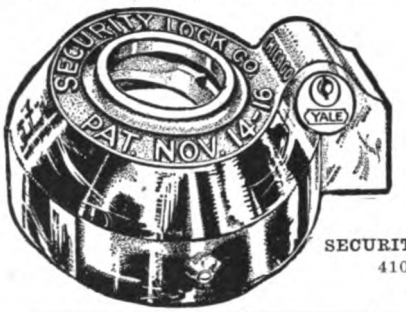

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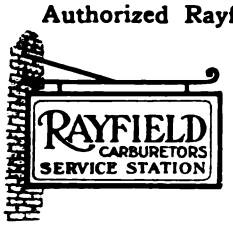

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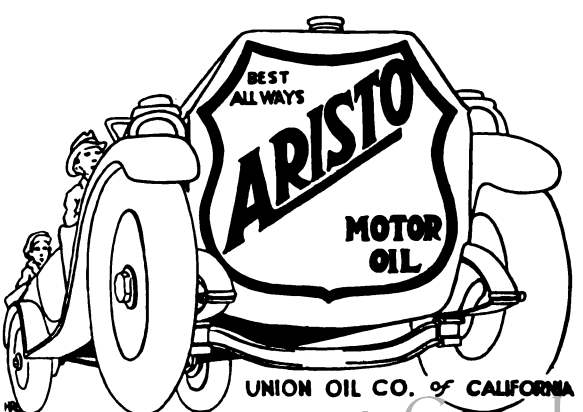

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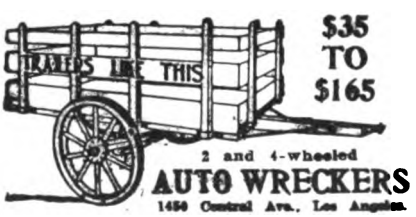

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32x3½	6.50	1.50	35x4½	9.50	1.80
34x3½	7.00	1.60	36x4½	9.75	1.85
31x4	7.25	1.65	37x4½	10.25	1.90
32x4	8.00	1.60	35x5	10.50	2.00
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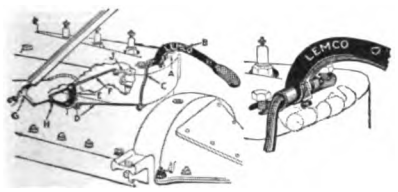

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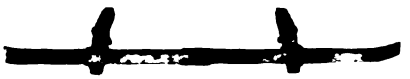

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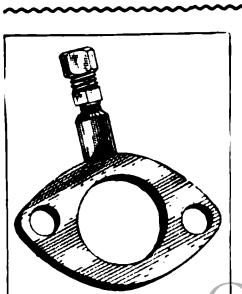

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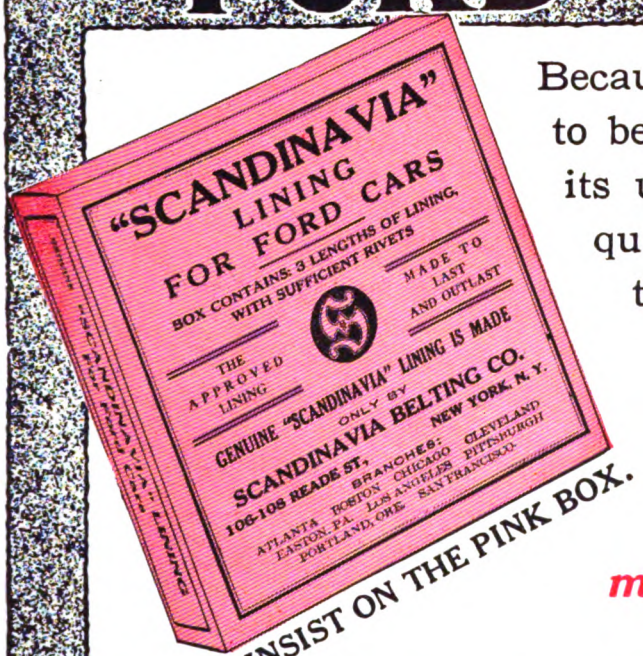

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AS EFFICIENT AS AN AIR BRAKE—THE LINING DE LUXE FOR FORD CARS

Scandinavia is made especially for Ford use. The hot, oily condition of the Planetary Transmission cannot harm it.

It will not chatter or glaze.

It is wear proof.

It is made of the best long staple cotton interwoven into a compact fabric, especially impregnated, processed and hardened to resist heat, oil and grit.

ATTRACTIVE PROPOSITION TO JOBBER AND DEALER.

SCANDINAVIA BELTING CO., 106 READE STREET NEW YORK, N. Y

BRANCHES: Atlanta, Boston, Chicago, Cleveland, Easton, Pa., Pittsburgh, San Francisco, Los Angeles, Portland, Ore.

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Plain Talk About Trade Papers

THERE was once a big advertising man. He's dead now, but in his day what he said "went" with smaller men. He got many advertisers to drop newspapers and trade papers for general magazines. It simplified work for advertisers and copy writers—and his collection of agency commissions. Other agents followed his lead. Result—finding any ad in a general magazine is like finding a needle in a haystack. The advertiser gets much business, but not nearly as much as by the right plan—by intensive advertising.

In a recent convention in Chicago, R. R. Shuman, president of the Shuman Advertising Co., in a masterly paper showed clearly, for a wide range of products, particularly automobiles and motor trucks, the economy and profit of this plan:

Full-page ads in dealer publications, talking at and through them to prospective purchasers, in the latter's own language;

Standardized local newspaper ads, with (except in large cities) dealers' names at the bottom of the larger ads;

Ads in general media, long enough after the dealer drive to assure stocking up by a sufficient percentage of dealers to meet the demand thus cumulatively created;

Collateral local advertising where dealers have been secured—theaters, bill-boards, street cars, etc.;

Window and indoor display signs, to connect dealers' places with all the advertising done.

This plan would use all the factors; would save the great economic waste caused by using only one factor—dumping all the eggs in one basket, as it were.

Mr. Shuman rightly says that the time for general advertising is after the goods are in the dealer's place, and that the best way to get goods into the dealer's place is through vigorous and sustained advertising in the dealer trade press, and assurance to the dealer that local and general advertising will be used to help him make sales.

The same logic, which is based on truth, makes it apparent that no so-called national trade paper understands, or is understood by, the dealers or consumers in various regions. The country is too vast. Regional publications are absolutely necessary. The automobile journal of the Pacific Coast region is

"MOTOR WEST"

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ace

DEALERS

Here is your opportunity to cash in on the hundred thousand Ford cars now used in this State. The ACE STARTER, for Ford cars, sells at a low price, $13.50 complete with foot primer, does its work well, and is efficient.

Ace Starter

FOR

FORDS

$13.50

Complete with Foot Primer

This device is easily installed. It eliminates the danger of broken arms and "kick backs" from the Ford motor, when you try to start it by cranking.

The demand is increasing rapidly. Get your orders in soon so that we can supply you.

There is still some choice territory open.

Write or wire us at once.

THE ACE-NUNN SALES CO.

California Distributers

853 Monadnock Building

San Francisco

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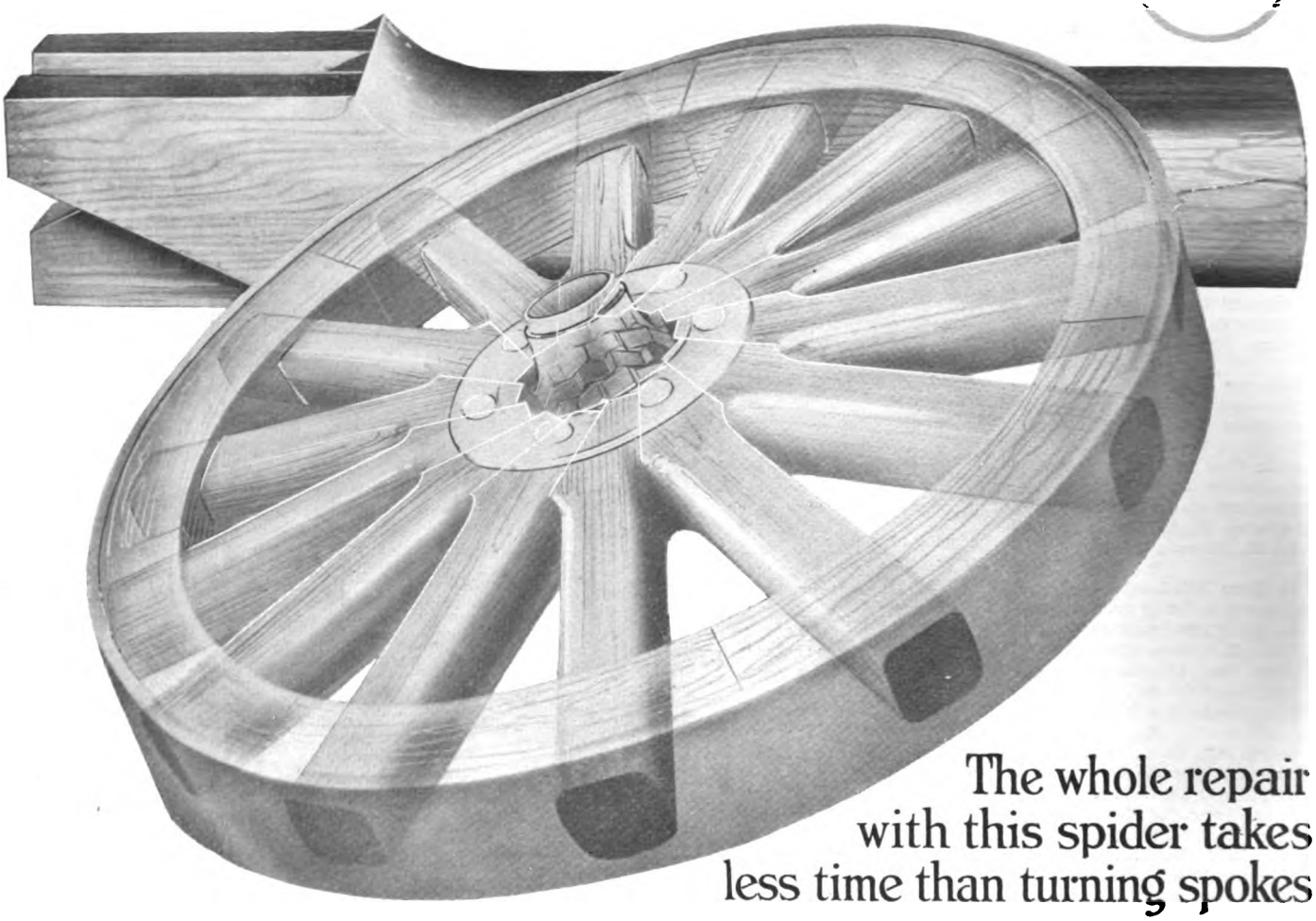
SCHWARZ WHEELS

WITH INTERLOCKED SPOKES



The whole repair with this spider takes less time than turning spokes

Try it and see.

You can safely make the experiment for the whole spider costs no more than turning the spokes. The rebuilt wheel with its Schwarz Spider will be much stronger than it was originally.

You get the same price for the job and you can repair another one easily in the time you save.

These spiders can be stocked without risk, for the interlocked spoke construction makes them almost as rigid and permanent as a complete wheel.

We are the exclusive distributors on the Pacific Coast for Schwarz Wheels and Spiders. Any size for passenger cars and trucks can be shipped immediately from our complete stocks at San Francisco and Los Angeles.

SCOVEL IRON STORE CO.

SAN FRANCISCO SISCO LOS ANGELES

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DEALERS—We have an exceptional proposition to those who want to join in selling DREADNAUGHT TIRES. Write or wire for particulars.

CHARLES F. U. KELLY, Inc.
SALES DEPARTMENT
1834 Broadway,
New York.

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You Can't *Talk* Quality Into a Tire

IT must be ***built*** — there. Like Greatness, it is a result of the ability and sincere desire to do things better than they have ever been done before. And these have built into Star *Hand-Made* Tires that intangible something called Quality which is its own guarantee of perfect satisfaction to the purchaser.

The rubber, the fabric, all of the very best—are used in liberal quantities and, these with expert unvarying workmanship produce the extra mileage and dependability of Stars.

Such tires help build ***prestige*** and ***customer confidence*** for the man who sells them.

We'll gladly give you details of the Star ***exclusive franchise.*** Write, or wire.

THE STAR RUBBER COMPANY

AKRON'S MASTER TIRE BUILDERS

1074 CROZIER ST.:: AKRON, OHIO

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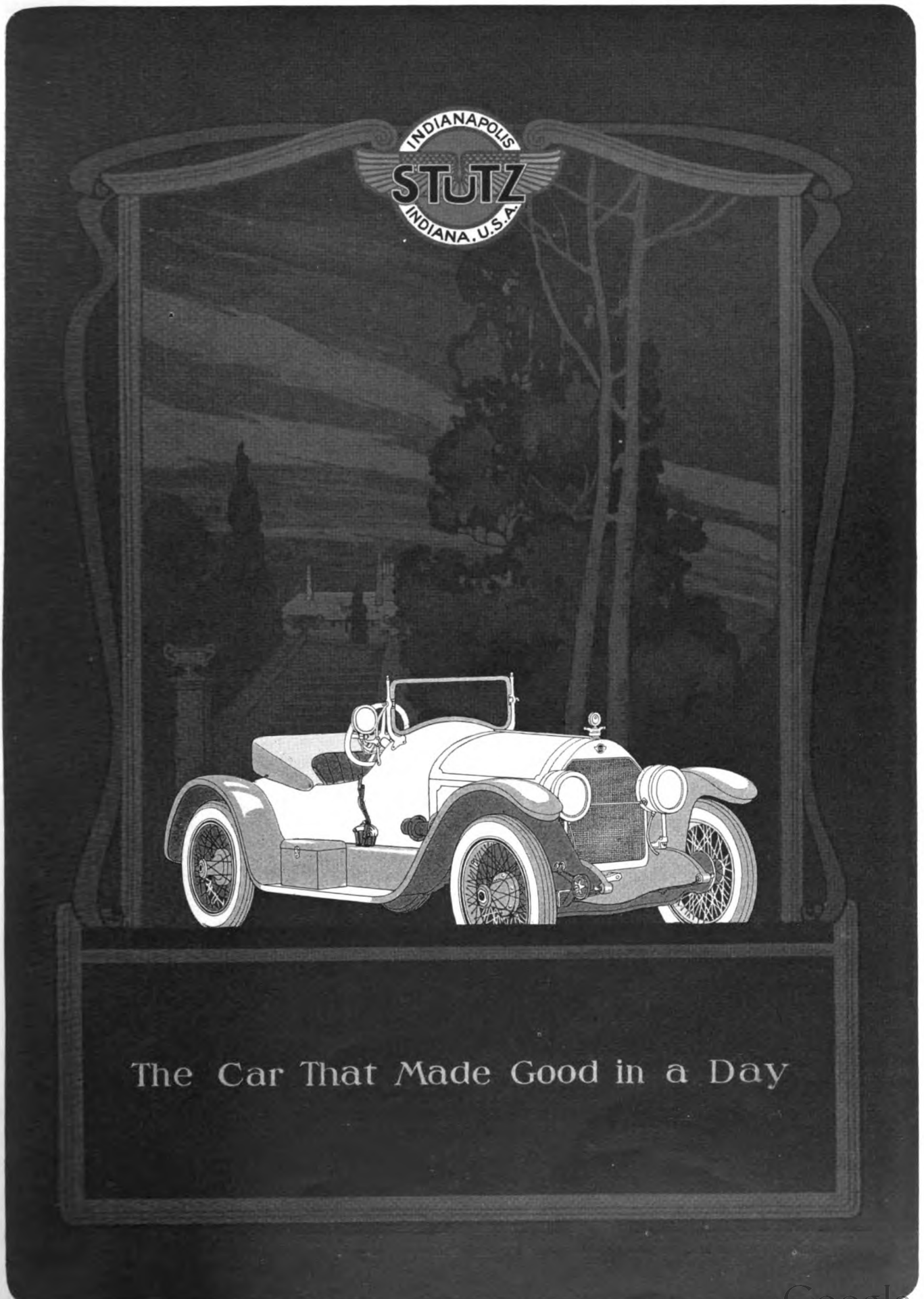

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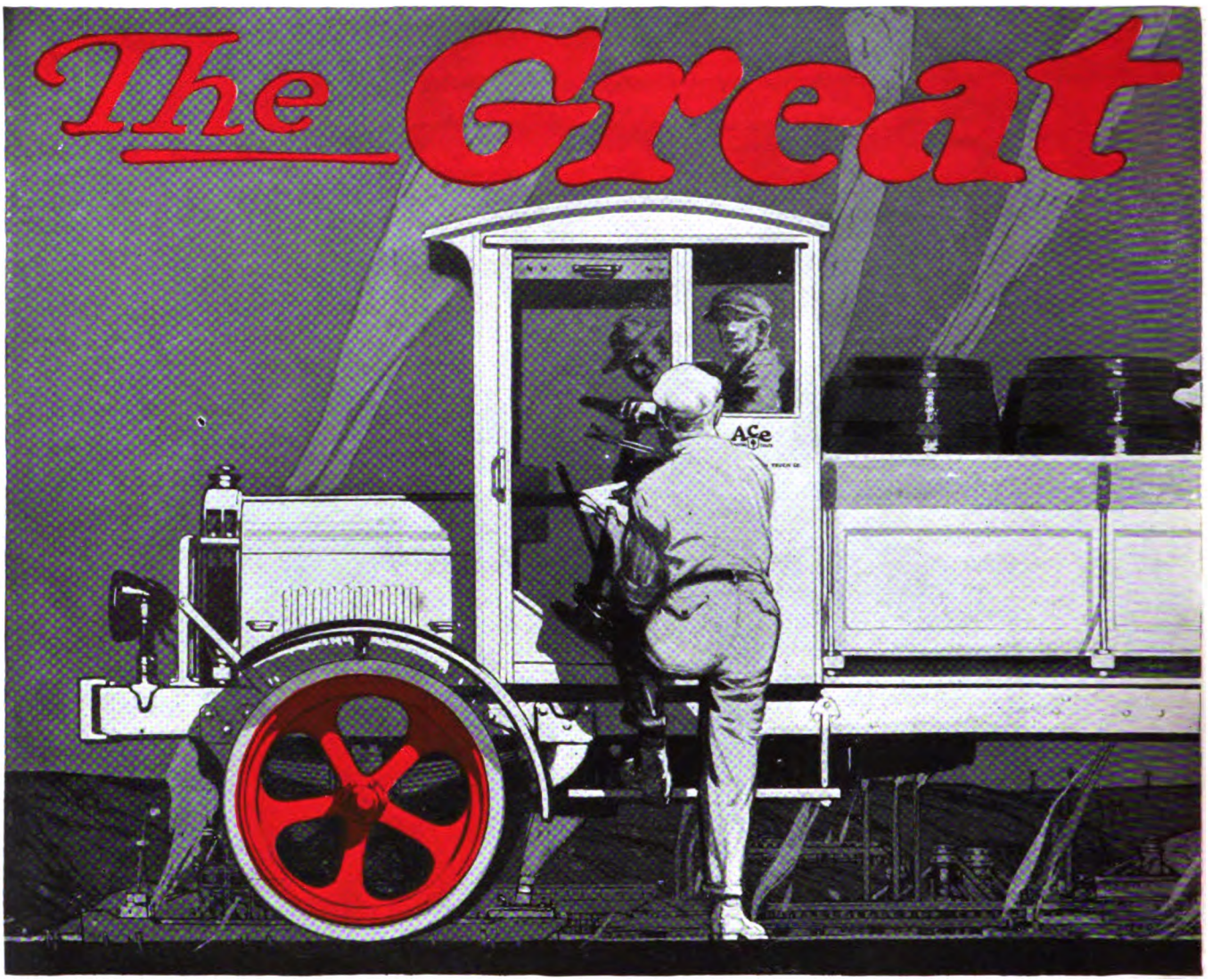

Brings Down Five "Uns"

Shooting five enemies to a dead fall makes an aviator an Ace.

Ace Motor Trucks have won their right to their name on five points. They have shot ragged holes through the vital parts of the five worst enemies of the Motor Truck Business:

1. The **Un**-proved Truck.
2. The **Un**-finished Truck.
3. The **Un**-sold Truck.
4. The **Un**-served Truck.
5. The **Un**-profitable Truck.

It's the commonest common sense that the un-proved, low priced Truck must sooner or later go bad; that the incomplete Truck has to be completed at the owner's expense or go unfinished; that the unsold Truck is not sold because something's the matter somewhere; that the unserved Truck is a burden to the owner and a boomerang to the Dealer; and that the unprofitable Truck is poison to user, dealer, maker and the whole Truck Business.

Ace Motor Trucks have shot all these "Uns" down, and the air is clear for Ace Dealers.

1 Ace Trucks have been quadrupely proved, first by the makers of the parts; second by our check on the parts makers' proofs; third by our check on the assembled truck in a laboratory manner, and fourth by actual road service.

Ace

The AMERICAN MOTOR TRUCK COMPANY
NEWARK OHIO.

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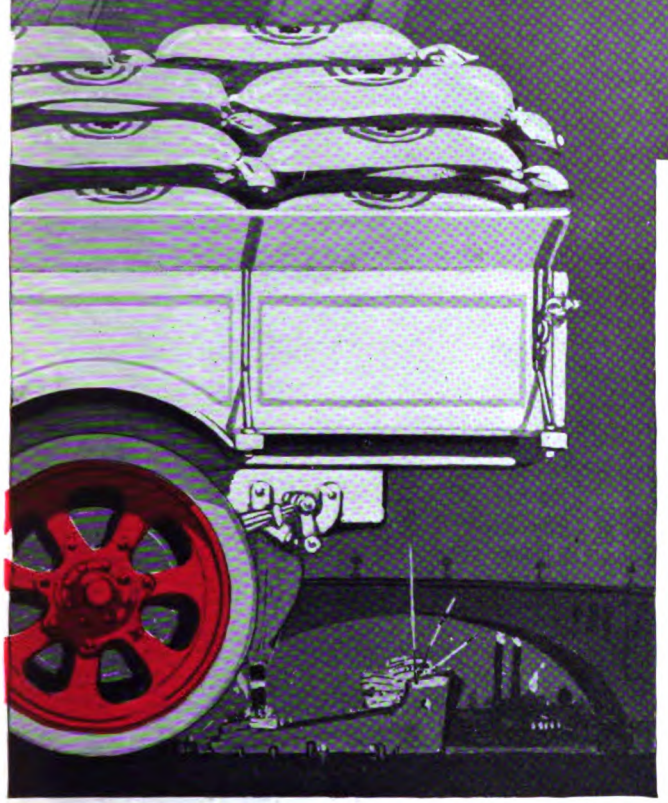
American Ace



Specifications

Modine-Spirex Sectional Radiator	Brown-Lipe Control
Timken-Detroit Front Axle	Ross Steering Gear
Buda Motor	Spicer Universal Joints
Atwater-Kent Distributor	Timken-David Brown Worm Drive Rear Axle with Hotchkiss Drive
Brown-Lipe Multiple Dry Disc Clutch	Mather Springs
Brown-Lipe Transmission	Parish & Bingham Frame
	Dayton Cast Steel Wheels
	Firestone Tires

Special Equipment

Steel Channel Bumper	Special device to make Headlights track automatically with front wheels
All-Weather Cab	
Trailer connection on rear of frame	
Westinghouse Self-Starter	Exide Battery
Westinghouse Generator	Klaxon Horn
Westinghouse Electric Lights with Dimmers	Pierce Governor
	Veeder Odometer
	Fully Painted

1½ Ton, $2800—2½ Ton, $3500

2 Ace Trucks are finished in every way, ready for service without an accessory to be added, and complete at list price.

3 Ace Trucks are selling on merit and will sell and repeat themselves in a market that has been waiting for this particular type of proved, complete, dependable unit.

4 Ace Service to users is not the old style hold-em-up and lay-em-up game, but a scientific fixed price and unit replacement system about which every Dealer and every Truck user should have full details. *Can't get it all in this space.*

5 Ace Trucks must make money for three parties—User, Dealer and us.

Designed, built, sold, served and operated on fundamentals drawn from the past ten years of Truck History, Ace Trucks are vitalizing the entire Motor Truck Business and establishing the manufacturing and selling basis for the future.

ACE MOTOR TRUCKS
1½ TON 2½ TON

THE AMERICAN MOTOR TRUCK CO.
Newark, Ohio, U. S. A.

I want to { Buy Ace Trucks / Sell Ace Trucks

Name _____

No. _____ Street _____

City _____ State _____

MW.11-1

The AMERICAN MOTOR TRUCK COMPANY NEWARK OHIO

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Appearance counts—is being sought more than ever before—not superficial appearance, but the appearance that reveals the soundness of things below the surface. This is Fisk Cord Year.

FISK CORDS ARE BIG HANDSOME TIRES—and they keep their good looks. the safety buttons on the Fisk Casings after they have already run seven or eight thousand miles or better.

HERE ARE TIRES as notable for mileage and extended protection against skidding as they are for their good appearance.

FISK CORDS are just the kind of sound dependable tires that you would expect from a company whose ideal for over twenty years has been "the best concern in the world to work for and the squarest concern in existence to do business with."

Next time—BUY FISK FROM YOUR DEALER.

FISK CORD TIRES

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Nash Volume Production Makes Nash Prices Possible

NASH prices for both passenger cars and trucks would have to be much higher right now were it not for the fixed policy of building in such quantity that dealers are able to do a volume business---to sell these value products at most attractive volume prices. The success of this policy is evidenced by the large and ever growing demand from all sections of the country.

Nash Passenger Cars

5-Passenger Car, $1490 2-Passenger Roadster, $1490 Sedan, $2575
4-Passenger Coupe, $2350 7-Passenger Car, $1640
4-Passenger Sport Model, $1595

Nash Trucks

One-Ton Chassis, $1650 Two-Ton Chassis, $2250
Nash Quad Chassis, $3250
Prices F. O. B. Kenosha

The Nash Motors Co., Kenosha, Wis.

Manufacturers of Passenger Cars and Trucks
Including the Famous Nash Quad

NASH MOTORS

VALUE CARS AT VOLUME PRICES

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Why Pay for Adjustments?

Increased guarantees have put dealers in the position where they sell adjustments and replace the normal sales profit with a ten per cent adjustment margin.

When tests proved that only one Amazon tire in a thousand needed adjustment, the prices were reduced and the limit was taken off the guaranty. Amazon tires are unqualifiedly guaranteed to be free from defects of material and workmanship. The Amazon tire so satisfies the user that he returns for more Amazons. The Amazon dealer makes a profit on the users good will as well as on the good Amazon tire.

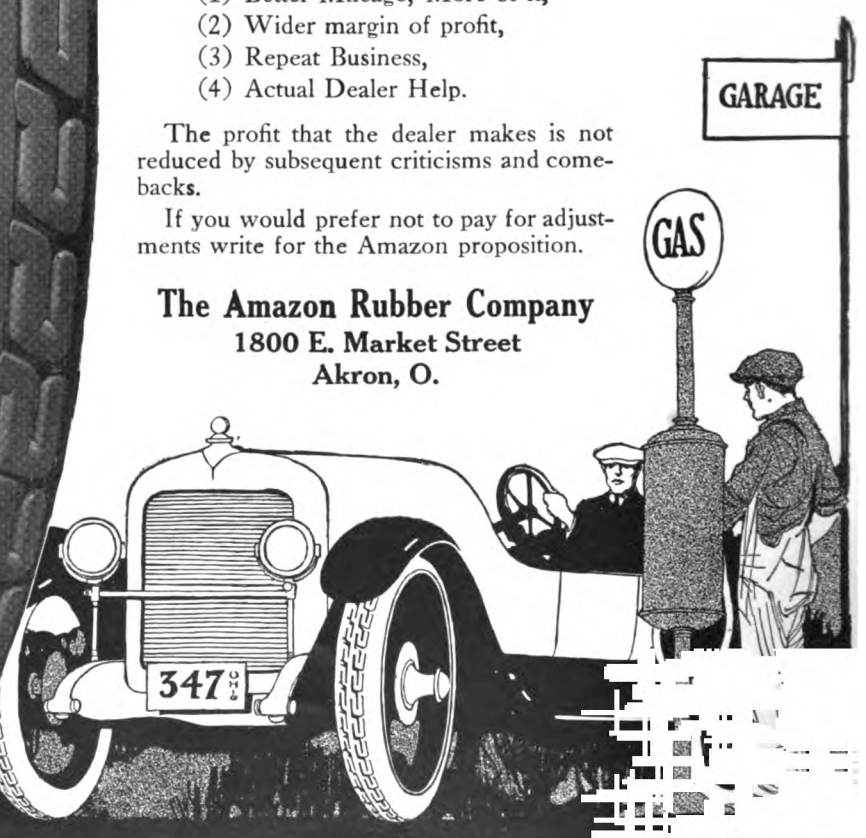
The Amazon proposition carries four extra benefits to the dealer:

(1) Better Mileage, More of it,
(2) Wider margin of profit,
(3) Repeat Business,
(4) Actual Dealer Help.

The profit that the dealer makes is not reduced by subsequent criticisms and comebacks.

If you would prefer not to pay for adjustments write for the Amazon proposition.

The Amazon Rubber Company
1800 E. Market Street
Akron, O.



AMAZ

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NAPOLEON TRUCKS

75% of All Hauling Requirements are Handled by Trucks Up to 1½ Ton Capacity.

Model 9
1 Ton
$1385
(Chassis only)

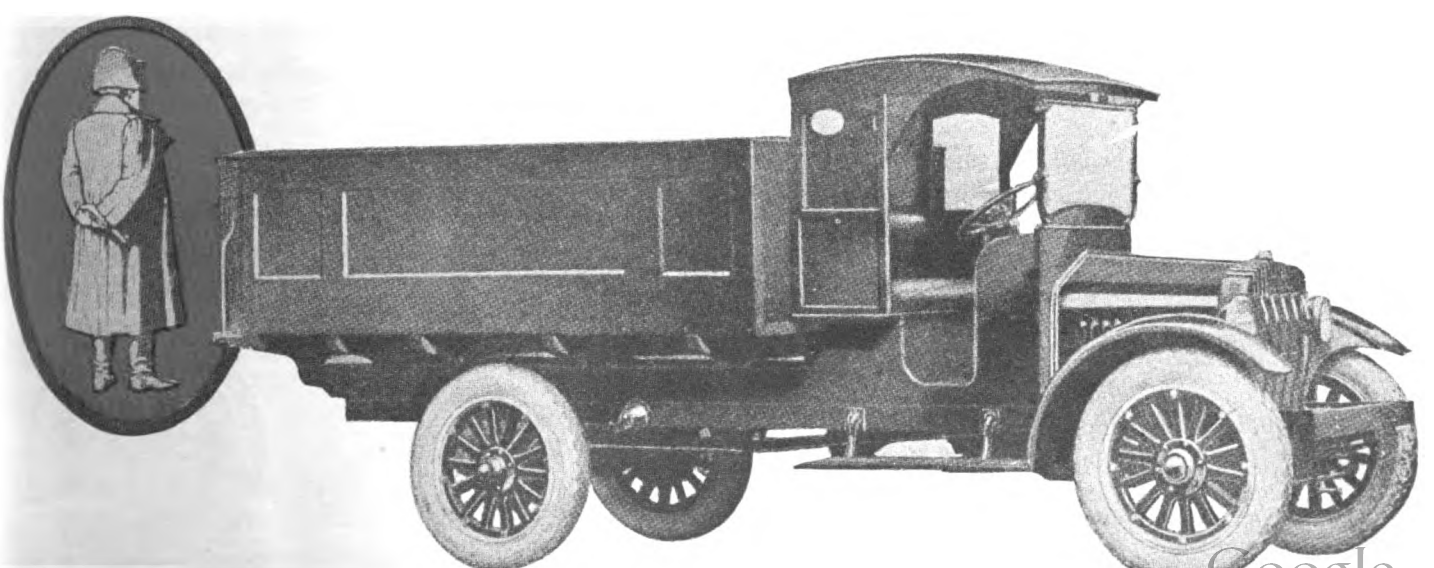
Model 11
1½ Ton
$1660
(Chassis only)

A motor truck to be economical must be of a size that will best adapt itself to the hauling problems of the business it serves. Experienced motor truck users have found unlimited advantage in replacing trucks of large tonnage with trucks of comparatively small tonnage for long hauls over uncertain roads.

NAPOLEON TRUCKS either 1-ton or 1½-ton capacities equipped with pneumatic tires permit speeds up to 25 miles per hour, and have unquestionably proven their superiority. NAPOLEON TRUCKS are making good wherever they have been put in operation. They are bound to make good, because the design is right—the materials used are the best obtainable—and the construction is based on years of motor truck building experience.

Full particulars on request.

NAPOLEON MOTORS CO.
Traverse City **Michigan**



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Bill, the NeighborHood Tire Expert, Talks About Adjustments

"Good morning, Mr. Brown, what can I do for you?"

"Well, I saw the Hood Sign on your window and I thought I would come in and take a look at a Hood Tire. I've been using several makes during the last few years and I have to fight all the time for adjustments. Don't believe that I've gotten a good adjustment in all that time."

"As long as you continue to buy adjustments, you will have that kind of trouble."

"What do you mean—buy adjustments?"

"Well, when you buy an ordinary or inferior tire guaranteed to run a definite number of miles, you are really putting yourself in a bad position, because such tires are made to go a certain mileage. They are not made to go the limit. Naturally, when you claim lack of mileage you are informed that the tire has no factory defect—and in most cases it doesn't.

"What's the answer to that?"

"Simply this—buy tires that are made to go the limit and that are backed by the manufacturer for the life of the tire against factory defect, regardless of the mileage run. Such tires cost more money in the first place, but least in the last place which is on the road, and are most economical for you—the cost per thousand miles being lowest."

"In other words, you believe that tires should be sold like shoes for instance?"

"Sure—you don't buy shoes guaranteed to last so many miles. You buy the best shoe you can get for your feet, because you know that you will get comfort and good wear. It's all the same, whether shoes for your feet or shoes for your car."

"Well, I've heard that the Hood is a mighty good tire and if the Hood people stand back of it as you say, I'll give it a chance."

"That's good judgment. You will have the satisfaction of getting satisfaction out of the Tire rather than out of the dealer. Drive around back and I'll have the Hood put on for you."

Branch
San Francisco, Cal.
118 New Montgomery St.

Branch
Los Angeles, Cal.
1223 S. Olive St.

Ask Bill at the Sign of the Hood Dealer. He Knows Tires

HOOD TIRE COMPANY, Inc.

Watertown, Mass.

HOOD EXTRA PLY TIRES

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CONCERNING NEW DEALERS FOR THE 1920 HAYNES

ALL this year we have had but one problem—to build the Haynes—the car of character—in sufficient volume to meet the demand.

That we have been unable to do so is a matter of common knowledge.

The moment a prospective car purchaser saw the new 1920 Haynes he wanted to own it. This was emphasized most gratifyingly in the case of the older automobile user—the man whose experience had taught him a great deal about the mechanical side of a car.

The demand for the Haynes is unabated to-day. This presages an even more unusual year in 1920. And we have been preparing for this, so that orders may be filled as promptly as possible. We are doubling our factory capacity.

Every present Haynes dealer knows that this season has been for him the foundation of a most prosperous business for next year.

In some sections we are ready to discuss establishing new dealers for the Haynes—dealers who have experience, reputation and commercial standing—dealers, in short, who are *entitled* to be called Haynes dealers.

If you are one of them, please write or wire us. Address Dept. *1148*

The Haynes Automobile Company, Kokomo, Ind., U. S. A.

The Haynes, AMERICA'S FIRST CAR, now exhibited by the government at the Smithsonian Institution, Washington, D. C., was invented, designed and built by Elwood Haynes, in 1893.

1893 — THE HAYNES IS AMERICA'S FIRST CAR — 1919

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We found out what was needed before we made

White Stripe

transmission lining for Fords

A wonderful combination of weave and treatment

There is no guesswork in White Stripe.

We made exhaustive experiments with various weaves and treatments. We first found out just what the Ford Transmission needed.

Then we made White Stripe—a wonderful combination of WEAVE and TREATMENT.

The strongest, most expensive long fiber cotton is woven into a special weave—a weave that wears and wears and wears. Our looms were specially built to make this weave. They are the only looms that can produce the White Stripe weave.

Every strand of this wonderful White Stripe weave is filled with a treatment that keeps it soft—protects it from the hardening effect of hot oil and friction.

White Stripe never loses its softness—its smooth grip. That's why it will stop a Ford car with twice the ease and smoothness of any other plain lining.

You can instantly identify White Stripe. Every inch bears the famous White Stripe trade mark.

The best jobbers and dealers sell and recommend White Stripe. If you can't get White Stripe from your dealer quickly, remit $2.00 and we will see that you get a set at once.

White Stripe Lining is sold by the roll or set. In rolls 32c per foot. Rockies West 35c. In Canada 40c. In sets $2.00. Rockies West $2.25. In Canada $3.00. White Stripe Lining is woven, packed and treated by

Advance Automobile Accessories Corp.

56 East Randolph St.
Chicago

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Motor West

THE MOTORING AUTHORITY OF THE PACIFIC COAST

VOL. XXXII., No. 2 NOVEMBER 1, 1919 $2.00 PER YEAR

FUTURE ROSY, SAY S. F. CAR DEALERS

Demand Largely Increased, and Shipments Coming Through Much More Regularly—New Cars, New Firms.

Automobile dealers in San Francisco think they see relief in sight. The Eastern demand for cars is not so insistent, due to winter's approach; labor troubles, particularly the still unsettled steel strike, are not taken with quite the same gloomy seriousness as about a month ago.

Three important sales conferences have been called in San Francisco during the past two weeks, where factory heads and representatives met dealers from all parts of the Coast territory. Practically everyone of the automobile factories promise to throw all previous production schedules into the shade during 1920 and the outstanding fact in these conferences was that Pacific Coast dealers will find next year the busiest ever met in the distributing of cars to meet demand. Another fact shown was that Coast dealers will no longer be fairly dormant, as they have been since the end of the war, due to lack of cars.

A big year awaits them, San Francisco distributors and dealers firmly believe. New buildings are arising on almost every block of Van Ness Ave., along which lies the city's spacious "automobile row." Handsomely planned sales buildings are now being erected for Al. G. Faulkner, Marmon dealer, and the Peacock Motor Sales Co., Chandler dealer, while Don Lee, of Cadillac fame, will build one of the largest and most finely equipped establishments in the West. Hawley, King & Co. also plan to build.

A number of new agencies has been recently announced. They are for the Allen, the Biddle, the Cunningham, the American Six and the Revere cars; and the Hall truck. Several new models, including in well established lines, have recently appeared in dealers' sales rooms, among them being the Cole closed car, Stearns coupe and roadster, new Overland Four, Cleveland Six roadster, and Franklin, Velie, Templar, American Six, Mercer, Westcott and Lexington car models. Among trucks most prominent is the new Republic two and a half ton model and Riker Locomobile truck.

Without nearer-home demands harassing them so much as previously many car factories have become of late much more responsive to pleas for larger allotments from Coast dealers. Quite a number of dealers report a loosening up of the factories and shiploads of automobiles are arriving with a most unusual regularity. The Velie, Roamer, Paige and Jordan dealers especially report substantial shipments received or on the way. Prompt or very early deliveries are promised on Briscoe, Haynes and Cole cars.

Two prominent firms, heretofore confining their efforts to wholesaling, have taken over the large retail business on the cars they represent, namely, the Pacific Nash Motor Co., handling Nash cars and trucks, and Hawley, King & Co., the Oakland car. The latter firm also reports enlarged allotments and expectations of soon filling orders.

The Allen car has returned to the Coast and the newly appointed San Francisco agents, the Miller-Rector Co., have received several shipments whereon to base a vigorous campaign. According to H. A. Sellers, increased factory production will soon enable him to begin overtaking orders for Paige cars. The Mercer car is again prominent on the Coast, following the arrival of the new series type of that car.

Business is announced as being better than any time since the armistice, with the Peacock Motor Sales Co., Chandler dealer, while the McFarlan Six agents expect most of their orders to be filled within the next few months. A comparatively new car, the Essex, has intrenched itself firmly in popular favor, H. O. Harrison having sold more than 500 of them since the first Coast shipment in June.

New York Show Issue—Jan. 1st.
Chicago Show Issue—Jan. 15th.

COULDN'T FIND BAD ROADS—SO MADE 'EM

Coast Overland Dealers, Looking for Testing Ground for New Four, Build Bumpy Tracks in L. A. and S. F.

Many points of excellence in design, economy of upkeep and ease of handling are claimed for the new Overland Four, which is now on the Coast. Bad roads and hard riding conditions are not very easy to find near California towns and the Willys-Overland Pacific Co. in both Los Angeles and San Francisco went out of its way to find opportunity to impress on the general public the qualities of the new Overland.

In Los Angeles a unique track was built upon a vacant city lot, nearly a quarter-mile in length, and soon after another similar one was completed in San Francisco. Almost every detail of road conditions which tests the stamina of an automobile is found in these testing tracks. The Overland Four circles them and meets curbs, chuckholes, cobble-stones, steps, all sorts of weird pitfalls. On the San Francisco track the hazardous places in the track are marked by California State Automobile Association signs. The riding qualities of the new type of spring suspension are put to a severe and decisive test.

All car owners are invited to drive around the track and find for themselves that it is possible to traverse it throughout its length and then become passengers in the new Overland, the Willys-Overland Co.'s idea being first of all to show the comfortable riding of the new car. Another feature is a circle of 33½-feet which was built to test the narrow turning radius of the Overland; all other cars, large and small, are also invited to try their fortune at negotiating this rather tight place.

Barnard & Teaboldt Move.

Barnard & Teaboldt, of Los Angeles, Cal., well known for their "Dodge Repair Shop," formerly at 1243 W. Pico St., have moved to 815 S. Figueroa St.

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LAYS DOWN LAW REGARDING LIGHTS

Head of California Motor Vehicle Department Makes Public Methods of Enforcing New Ordinance.

The educational campaign launched by the state motor vehicle department last month was for the purpose of enlightening officials who have to do with the enforcement of the automobile headlight laws as well as for owners, operators and dealers in motor cars, says P. J. Tehaney, head of the department, in a recent announcement.

The five demonstrators engaged in this campaign have already gone into the larger populated centers of the state and the results have been most encouraging. In all cases, the difference between poorly-adjusted headlights and properly-adjusted ones has been brought out so clearly that the importance of adjustments required in connection with the application of a modifying device becomes immediately apparent. These adjustments must be made no matter what the lens used in order to eliminate the glare. All lights must be regulated for focus and parallelism and without this adjustment certified and home-made lenses are of no avail.

Upon completion of the educational campaign, the department's demonstrators will next take up with the local police officials the practical enforcement of the headlight law.

The department has, through its testing agency, made exhaustive tests of all known devices, both certified and home-made, for the elimination of dangerous glare, and has fixed a maximum candle-power rating for each and every device tested. Accordingly, any device in use with a candle-power rating in excess of the maximum specified in the recently published tables and not adjusted in accordance with said table, is being used in violation of the law.

When improperly adjusted the glare is apparent or if the headlight is properly adjusted and there is still a glare, the maximum candle power is being exceeded, and this can be determined by removing the device, taking out the bulb and examine same. If the rating on the base of the bulb exceeds the maximum candle power permissible by the state's certificate of approval and as set forth in our table, it is being used in violation of the law.

Plain glass lens, or what is termed an unmodifying beam, is allowable only when same is used with a ten-candle-power vacuum or twelve-candle-power gas-filled lamp, with a tilt of four feet [illegible] 100 feet. Any plain glass lens used [illegible] candle-power lamp in excess of ten vacuum and twelve gas-filled as above stated is a violation of the headlight law. It will not, declares Tehaney, be a very difficult problem to enforce the headlight law when the table of approvals and the maximum candle power are brought into play. These tables and the candle-power limitations are fixed on a scientific basis and can, and will be, if necessary established in any court in the state.

Immediately upon completion of the campaign of instructions and education, the motor vehicle inspectors will go out and assist local police and traffic officers in enforcement of this law.

That this is somewhat of a colossal task and will require time and patience to bring about can best be illustrated by referring to the statement below, which discloses that there were on Oct. 18 in actual operation upon the public highways of the state of California, 436,908 automobiles. This is exclusive of dealers' cars and motorcycles. The growth of the automobile in the state of California is interesting, showing the increase yearly and the total registrations each year from the beginning up to date. The state started in 190[illegible] with 10,020 and today has 436,908, and it is estimated that at the end of this year there will be in actual operation upon the public highways of the state, 470,000 automobiles.

CALIFORNIA'S 1920 TAG.

A black background, with white figures, hyphenated, and a plate of embossed tin, instead of the usual heavy enamel, and slightly larger than formerly, will make up the new 1920 automobile license tags in California.

The hyphenate system will be used with the numerals in order to make reading quicker and easier. Thus, instead of a number being shown as: 273492, it will be split up to read: 27-34-92.

There will be distinguishing marks for the various plates. Motor trucks and commercial vehicles will have "COM" stamped on the plate. Public service automobiles will have special initials, as also cars used in the federal service and those owned by municipalities and dealers.

	Increase yearly	Total yearly
Up to April 8, 1907.....		10,020
During 1907	4,031	14,051
During 1908	5,510	19,561
During 1909	9,072	28,633
During 1910 and part of 1911	15,489	44,122
During 1911	16,657	60,779
During 1912	30,415	91,194
During 1913	28,522	119,716
During 1914	3,800	123,516
During 1915	40,279	163,795
During 1916	68,645	232,440
During 1917	74,478	306,916
During 1918	57,884	364,800
Up to date—1919	72,108	436,908

The total registration to date (1919) exclusive of cancellations aggregate 484,788. Of this number 47,880 have been canceled or transferred, leaving a net total of 436,908. So it is apparent that to bring this number of automobiles under the headlight law the state authorities need not only the active enforcement by local officials, but the co-operation of the motorists.

Moreland to Build Passenger Car.

A new Moreland company, manufacturing a line of passenger cars of very distinctive type and capitalized at $1,000,000, has recently been announced in Los Angeles by Watt L. Moreland, president of the Moreland Motor Truck Co., of that city, and president of the local Chamber of Commerce.

The cars will be on the market within sixty days, according to the company's head. Nine factory branches in California are now being operated by the Moreland organization.

"There will be three types of cars," says Moreland, "a five-passenger, four-passenger, compact coupe and roadster with permanent top. They will be popular priced and equipped with a gasifier, permitting the use of distillate and low-grade fuels. The car itself will be a six-cylinder job, with 118-inch wheelbase. Manufacturing rights have been secured on the Gillig top."

Gen. Motors Plant in L. A. Rumored.

Large branch factories of the Eastern automobile companies in Southern California is one of the chief subjects of discussion and rumor in Los Angeles nowadays. The latest concerns the General Motors. Charles Y. Knight, inventor of the famous sleeve-valve engine, while in Pasadena recently stated that A. E. Lambie, for many years European manager for General Motors and a recent visitor to the Coast, had sent data to the Eastern factory, urging the opening of a Los Angeles factory for building motor vehicles.

State Orders 10,000 Chauffeur Tags.

Formerly only drivers of passenger cars wore license badges in California. Now the grocery and butcher boy, and the motor truck driver, are in the same class as the taxi manipulator and haughty family chauffeur. The new motor vehicle law requires that they all wear license badges. The demand is so great that recently Superintendent P. J. Tehaney, of the Motor Vehicle Department, ordered 10,000 more.

Give Fisk Coast Branches Once-Over.

With the object of looking over Fisk tire branches and securing a first-hand idea of business conditions west of the Rockies, E. H. Broadwell, general manager of the Fisk Rubber Co., and F. H. Ayres, sales manager, of Chicopee Falls, Mass, are on their way to the Coast.

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L. A. DEALERS LOOK FOR BIG BUSINESS

Conditions Ripe for Best Year in History—Will Have Cars to Meet the Largely Increased Demand.

Prediction that more passenger cars and motor trucks than ever before will be sold on the Coast this fall and winter find no doubters. Eastern demand is slackening with winter's approach; more Pacific Coast dealers than any time since the ending of the war are announcing their ability to make immediate deliveries. In Southern California especially the great number of Eastern visitors, unable to secure cars at home, will buy, taking advantage of the winter supply to the Coast.

New lines recently arrived in Los Angeles are the Metz, Case Six and Overland Four cars and the Transport, Paige and Velie trucks. The Moon agency changed hands, now being held by the Southern California Motor Co. New dealer and garage establishments are planned and started daily. The Chevrolet branch and the Dodge, Cleveland and Metz dealers are having sales buildings in course of erection for them; three others, Harris M. Hanshue, handling the Apperson car; Don Lee, the Cadillac; and International Mack Co., Mack trucks, are considering newer and larger buildings to meet the volume of business greater than ever before.

That the West Coast is receiving a larger proportion of the whole output of cars than at any time since the end of the war is evidenced by the unusual number of dealers able to take orders without safeguarding themselves by promises of deliveries within six weeks or ninety days. Many are however still much in arrears on their orders. Immediate or very early deliveries have been promised on Saxon, Kissel, Chalmers, Daniels, Briscoe, Columbia and Metz cars; Locomobile Riker, Velie, Chevrolet and Transport trucks.

The lessening Eastern demand brings hope to many dealers. W. P. Herbert, Cleveland Six dealer, announces that not enough cars are yet on hand to supply all his sub-dealers, but that shipments are expected soon to be coming with a frequency that will overtake orders. The Standard Steel Automotive Corp. expects to be filling orders within a few weeks on Standard cars. F. O. Renstrom has been assured of large and uninterrupted shipments of Briscoe cars. Chalmers are being received in increasing quantities and the Greer-Robbins Co. is emboldened to promise early deliveries. S. F. Seager, Jordan dealer, is receiving shipments; Walter H. Fisher, Haynes, promises that after November 1 hope will not be so long deferred on deliveries. The Eastern pressure for Peerless cars has slackened, and according to Smith Brothers, Los Angeles dealers, the Coast will very soon come into its own. "Rotation" orders on Stephens cars still increase steadily despite factory shipments, according to the White Auto Co.

Patience and optimism is all some dealers have yet to show. The first shipment of many of Standard Eight cars will reach Los Angeles in a few weeks. According to H. C. McVey, there has not been one month this year when deliveries of Oakland cars have kept pace with sales. After lagging several weeks Mitchell car shipments have again become regular with the Security Motor Co. An increase made in the Southern California allotment of Paige cars will enable Paige & Evans Co., recently located in fine new quarters, to fill orders, they announce. This company has had its territory expanded to include the Mexican state of Baja (Lower) California.

DEALING WITH CARELESS DRIVERS.

About 95 per cent of the country's motorists are careful, conscientious drivers, but because the other 5 per cent persist in disregarding the rights of other motorists and pedestrains the entire motoring public is subjected to laws which in many instances are actual hardships.

It is practically impossible to strictly obey all traffic and speed regulations of many communities. Frequently the tourist finds at the limits of small villages a large sign stating that the speed limit is eight or even six miles per hour. Such laws result from the communities' desire to avenge itself against that 5 per cent, whose motto seems to be "Get out of my way or I'll run you down."

The 5 per cent habitually show no consideration for others. Laws have little effect of them because it is so difficult to apprehend offenders. In many cities the local club has taken up this matter with good results. Members of the clubs record the numbers of those machines that are carelessly driven. If the offense is repeated the evidence collected is turned over to civil authorities and successful prosecution usually result.

Velie is filling orders and the Templar and Roamer dealers are enjoying very good business, especially on closed cars. His Southern California business has expanded wonderfully, states F. O. Renstrom, handling Premier, Grant and Briscoe cars and Atterbury trucks for the state of California. Metz production has been long delayed, but about 500 have been sold, and DePalma, Fisher & Dowling, Los Angeles dealers, are now on a two carloads a week basis, this soon to become one car a day. Frank E. Nelson offered to take the entire factory output on Nelson cars when asked how many cars he could handle.

Truck dealers also report prosperity. Pacific Coast business on the Mack truck has increased 500 per cent during the year, the International Mack Co. states, while W. O. Fuller, White truck dealer, took $500,000 worth of orders in a recent six weeks' period, about 65 per cent on "repeat" orders. During the past six months the Pacific Coast demand for Commerce trucks has taxed the factory to fill it, according to W. B. Wood, district manager. D. F. Poyer & Son, newly appointed Transport truck dealer, have a total of five carloads of trucks, assuring them of ability to meet demand. To the Velie car agency the Lord Motor Car Co. has added the Velie truck. The Patterson truck is to be manufactured in Los Angeles by Neil Patterson, formerly identified with the Los Angeles Trailer Co.

Notable Visitors to Coast.

From this time forward to the end of the winter season the Pacific Coast is due to receive as visitors a number of prominent men in the automobile industry traveling Coastward to escape the rigors which the Eastern winter has in store. Among recent or present visitors on the Coast are T. W. Warner, a director of General Motors; R. H. Collins, president, and Dr. C. M. Campbell, vice-president of the Cadillac Motor Car Co.; A. E. Lambie, formerly European manager for General Motors, and Henry Landsdale, sales manager of the Packard Motor Car Co. Henry Ford and John N. Willys are expected to pass the winter at Pasadena.

To Build the Vulcan Truck.

The Vulcan truck will be appearing in the Seattle territory in quantity production within sixty days, according to recent announcement by the Vulcan Iron Works, of Seattle, Wash., one of the largest plants in the Northern city. It will be in three sizes. The company is also giving much of its energy to the production of steel dump truck bodies. These vary in capacity from 1½ to 3½ tons and have a wide distribution on the West Coast.

To Manufacture Automobile Locks.

Automobile locks, one-way screws, cranks and other automobile accessories will be manufactured by a new company, the Able Manufacturing Co., which recently filed incorporation papers in Sacramento, Cal. The capital stock is for $125,000, of which $50,000 is already paid in. The directors are all Sacramentans—Arthur E. Miller, C. H. Colburn and Bertha Groth.

Take Ace Truck in Northwest.

The distributing agency for the Ace truck, manufactured by the American Motor Truck Co., of Newark, O., has been taken by the Auto Sales Co., of Ninth and Couch Sts., Portland, Ore. They have also handled the Auburn car for some time.

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S. F. IS BECOMING AVIATION CENTER

Earl Cooper, Famous Coast Racing Driver, Tells Why the Airplane is Bound to Become Factor Here.

San Francisco is quietly making a reputation for itself as an aviation center, according to Earl P. Cooper, distributor of Curtiss airplanes. During the sixteen weeks he has had the agency he has sold 44 airplanes, averaging 11 planes sold a month.

Some of the planes, says Cooper, remain around San Francisco, but most of them are bought by business men whose interests are scattered through Northern and Ceneral California. They purchased airplanes purely as a quick means of transportation, making it possible for them to visit practically all of their holdings in a day, where formerly it took the best part of the week traveling by automobile and train.

Most of the purchasers are men who, taking their first flight for the sensation, have experienced most of the excitement before they stepped into the fuselage.

There is a thrill and exhilaration in flying, but it is not nearly as nerve-racking as traveling at high speeds in an automobile. These men when they returned to earth have been somewhat disappointed in the amount of thrills experienced, while awakened to the wonderful time-saving of the airplane.

There is nothing timid about the average purchaser, Cooper says, and he has been struck by their fearlessness on the first flight. They seem to realize that the experimental days of flying are past.

"Just what the airplane saves in time can be appreciated by a flight I made recently. I had a call at noon from Sacramento that necessitated my going to Mather Field. Twenty minutes past twelve o'clock we hopped off the ground at our aerodrome; one hour later we landed at Mather Field. At a quarter to five the same afternoon we hopped off on the return journey and at six o'clock I was at dinner in a San Francisco hotel.

"Six hours would have been the best time by automobile or train for such traveling, making all connections. I did in an afternoon what hitherto has taken a day. It takes twelve hours to travel to Reno by train; a person can make it by airplane in two and one-half hours."

Changes in J. & D. Tire Policy.

The J. & D. Tire Co. of California, formerly located at 895 Post St., San Francisco, has moved to 612 Van Ness Ave. The new location will give them additional rooms and other facilities necessary for the future growth planned in carrying out the new policy of the factory at Charlotte, N. C.

Since the entrance of H. L. McClaren into the factory organization of the J. & D. Tire Co., as president and treasurer, several important changes have been inaugurated in its policy. Foremost among these is the change of name to McClaren Rubber Co. The branches and distributing connections will also change their names to conform, the San Francisco branch to be known as San Francisco-McClaren Rubber Co. Mr. McClaren was formerly president of the Racine and Ajax Rubber Co.'s.

It is also planned to change the name of the tire to McClaren brand after new equipment can be secured and

H. L. McCLAREN,
President and Treasurer of the J. & D. Tire Co., Charlotte, N. C.

installed. Until such equipment is available the McClaren organization will handle the J. & D. brand, which has made itself so favorably known in the past three years. The present line consists of non-skid and ribbed tread casings and red and gray tubes. A cord tire is being made and tested and will be offered to the trade around the first of the year.

The success of the tire in the past, as well as the experience and record of the new organization, assures a rapid growth of the line, and it is safe to predict that it will soon be well established among the better dealers in the California territory.

Osterloh Concerned Over Housing.

The business organization of the Goodyear Rubber Co. in California will be complete by November 1 and will consist of about 225 people, according to A. F. Osterloh, vice-president and general manager of the Goodyear Tire & Rubber Co. of California, who arrived on the Coast recently from the East. Two whole floors in a business building will be taken over to accommodate the general offices.

The housing problem in Los Angeles is a situation which has forced itself upon the new head of the projected Goodyear tire factory in that city. "We are bringing some 200 families to Los Angeles from Akron, the families of the men of our 'flying squadron'," said Osterloh recently, "and I am already worrying over the problem of housing them.

"Los Angeles has got to take hold of the housing proposition at once and get some speed behind the movement to provide more and better housing facilities than are to be found here now.

"We hope to get our factory in operation by June 1, 1920. When it is in operation there will be employed there in the rubber plant alone about 7,500 people, and in the fabric factory about 2,000 people."

Motor Show at Phoenix Fair.

When Arizonans, lured from mountains, deserts and irrigated valleys, attend the state fair at Phoenix in November they will look in on the biggest automobile show yet held in the state, if the plans of the Phoenix dealers come true.

Two large tents, or more, will shelter the offerings of the twenty local dealers from the balmy Southwestern sky. The show will be held under the direction of the Maricopa Auto Trades Association. In allotting space in the show each exhibitor draws a number out of checks numbered 1 to 20. The drawer of No. 1 gets first choice of space; of No. 2 second best choice, and so on. About 100 cars will be exhibited, in addition to trucks and accessories.

Lexington Agency for South.

Charles H. Kaar, of San Francisco, distributor for the Lexington Minute Man Six for California, has opened a permanent branch agency in Los Angeles. The demand for Lexington has always run strong in Southern California, according to Kaar, but the shortage of cars compelled him to expand slowly until assured of fairly ample deliveries.

Northern Motorists Look Southward.

Out of Seattle comes word that the annual southward migration of motorists to enjoy the California winter climate has begun. Anticipating an unusually heavy winter tourist travel to California, the Automobile Club of

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Western Washington has arranged to extend to its members the same service as prevailed last season when more than 200 Seattle automobiles were shipped to California. It is expected that at least 300 local motorists will take advantage of this service again this year.

The reports received and announced in Seattle are that roads in Southern California and the mountain districts are difficult to travel because of recent heavy rains. Therefore many California-bound vacationists intend to ship their cars either to San Francisco or Los Angeles, following themselves by train. The Automobile Club of Western Washington will consolidate shipments and ship them with great promptness and safety to California.

National Traffic Law Urged.

There will be a plank in the platform of a coming presidential candidate calling for nationalization of traffic laws, predicted D. A. Sylvester, president of the California Traffic Officers Convention, speaking at the recent annual meeting of the National Traffic Officers' Convention at Seattle, Wash.

Uniform highway traffic regulations and directions, the same for every state, county and city, would be a powerful means of checking the alarming increase of accidents occurring on streets and highways.

Sylvester gave some statistics. "The death rate in the city of Washington, D. C., has averaged 82 a year, and in San Francisco the accidental death rate from motor vehicles and street cars for the six months ending August 31 was 52 deaths. Accidents in the same city in which no lives were lost averaged five a day since last January. The courts estimate the value of a life at $10,000."

A nation-wide law also would hit the automobile thief very effectively. This industrious gentleman has a wonderful territory to work in, the United States having one automobile to every 18 inhabitants. During 1918, Sylvester pointed out, 40 stolen automobiles in San Francisco were never recovered; in Los Angeles, 130; Oakland, 35; Seattle, 75; and Portland, 98.

Lane Seeks Calif. Distribution.

Josef D. Lane, whose present address is 2604 Fourth street, Ocean Park, Cal., pending the opening of a Los Angeles office in a central location, has established the Auto Sales Co. of California, which will act as distributor for automobile specialties manufactured by home and eastern firms. This company will handle the representation for the entire state or for Southern California alone, and Mr. Lane is anxious to get in touch with manufacturers who desire to have their goods represented in this territory efficiently. Mr. Lane has had long experience in the selling line, but during the war was cashier of the United States Railroad Administration's consolidated office at Ocean Park.

Represents Midwest Utilitor on Coast.

The Midwest Engine Co., Indianapolis, Ind., has appointed T. J. Stallsmith as district representative for the Utilitor sales division of this company. Mr. Stallsmith, who has had wide selling experience in power-farming equipment, will represent the Midwest Engine Co. in California, Oregon, Washington, Idaho, Arizona, Utah and Nevada. Mr. Stallsmith will arrive on the Coast this week.

T. J. STALLSMITH,
Who Represents the Midwest Engine Co., of Indianapolis, on Coast.

The Midwest Utilitor is the latest addition to the tractor field. It is said that it is especially adaptable for use where one-horse work is required. It is also admirably suited for many belt uses.

Allied Industries Men Visit East.

M. H. Klinger and C. D. Slaughter, of the Allied Industries, Inc., 279-283 Minna street, San Francisco, who are representing many Eastern manufacturers of automotive equipment, left on October 27th, to attend the Automotive Equipment Manufacturers Exhibit and Convention at Chicago, and will from there call on their different factories in the interest of better service to the Pacific Coast jobbers and a closer relationship between the Eastern factories and the Pacific Coast needs.

HAWAII BUYS MORE THAN THE FAR EAST

Al Faulkner Authority for Statement That Islands are Better Market Than China and Japan Combined.

Very few persons would think of the Hawaiian Islands as being a better market for automobiles than both China and Japan, yet such is the case, according to Al. G. Faulkner, Marmon dealer. Faulkner has a sales territory that is far-flung, taking in California, Nevada and the Hawaiian group. "Eventually, of course," he says, "China and Japan will be immense buyers of cars. But today their demand for automobiles is so small as to be negligible. In Japan there are only 2,700 cars running today. Bad roads and bridges inadequate for standing automobile traffic are the main reasons for keeping automobiles inside the larger cities.

"But in Hawaii the demand for cars is lively indeed. Motoring is a very popular form of amusement, though it does not take long to cover all the roads on the island. Motor equipment of all kinds is very extensively used. Big sugar companies have found it profitable to use trucks to haul their workers to and from the plantations. Roads are for the most part excellent and driving is a pleasure." There are now some 5,500 cars in the Islands.

Oregon Show Benefits Dealers.

Automobile dealers in the Oregon territory are in general well pleased with the after-results of the recent car and truck show staged at Salem, Ore., under the direction of the Oregon Motor Car Dealers' Association. The show was part of an agricultural and industrial fair and had a large attendance of farmers and inhabitants of the rural sections.

The show was chiefly valuable for the opportunity it gave to show new models recently introduced in the Northwest. The volume of orders for cars and trucks was not exceptionally large, but as a general thing dealers' stocks have become so slim that few orders could have been filled anyway.

Take Service Truck for Oregon.

The Service truck agency has been taken for Oregon by F. L. Gollehur and Howard T. Rankin, who have opened sales quarters in Portland, Ore. Every business need is met by the Service line, ranging as it does from one to five ton capacities. The best standard units are found in its make-up—Buda engine, Brown-Lipe transmission, Eisemann magneto and Timken worm-drive.

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FRONT-DRIVE CAR APPEARS ON COAST

Son of Australian Inventor Here to Set Forth Advantages of Radio-Spherical Gear for Automobiles.

From Australia comes what is claimed to be the solution of the problem against which automotive engineers have pitted their brains since the earliest days of the motor vehicle—a successful front-wheel-drive car. G. J. Hoskins, of Sydney, Australia, is the inventor; he is connected with an engineering firm well known in Australia.

The front-drive car is to be introduced into the United States within six weeks, according to L. P. Hoskins, of G. & C. Hoskins, Engineers, Sydney, N. S. W., and who is now on the Coast. A 16,000 mile test in Australia has given assurance that the inventor has discovered the correct front-drive principle having all the advantages which engineers are well acquainted with in theory, but have never been able to secure in practice.

Fitted with the Hoskins front-drive a car has an unusual appearance to eyes accustomed to the conventional rear-drive. The differential is incorporated in the front axle and the axle and its wheels seem to be somewhat apart from the car, almost like a horse pulling.

The car tested on Australian streets and roads had a 14 horsepower engine and moved effortless along at 48 miles an hour. Formerly when driven from the rear wheels it could not do better than 38 miles an hour. The inventor showed that running in trolley tracks the car could readily run along without the steering wheel being touched; at 40 miles an hour over bumpy ground the steering wheel need not be touched for a considerable interval without the car swerving to one side.

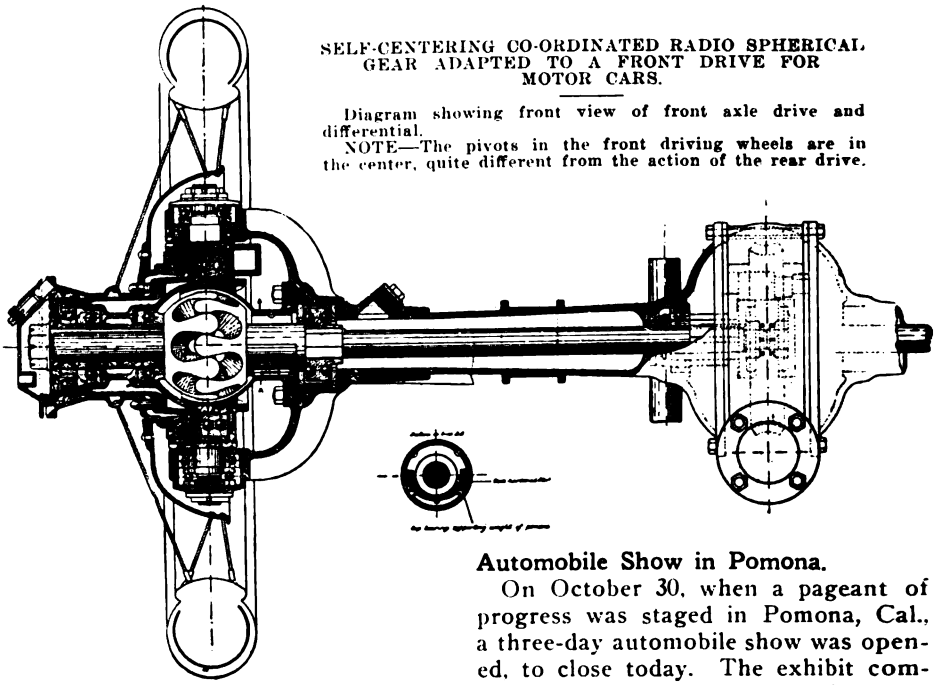
It was in its element in rounding corners in wet weather, taking them at speed without the danger of skidding that menaces rear-driven cars. The front-drive, the inventor claims, has entirely eliminated the disasters of skidding. The back wheels are no longer the source of driving power; they simply follow the front wheels which are in the control of the driver. All the rear wheels do is to carry the brakes.

Rear-drive cars may show a tendency to wobble. With the front-drive the pivots of the front wheels are in the center of the driving wheels, according to the inventor's explanation, and the car travels steadily on without any tendency to wander about the road.

The intention of G. J. Hoskins is to show the car fitted with the invention to automobile manufacturers in America, where a company will be formed to make the patent front-wheel axles for sales to car makers. From the United States he will continue on to England and Europe.

SELF-CENTERING CO-ORDINATED RADIO SPHERICAL GEAR ADAPTED TO A FRONT DRIVE FOR MOTOR CARS.

Diagram showing front view of front axle drive and differential.
NOTE—The pivots in the front driving wheels are in the center, quite different from the action of the rear drive.



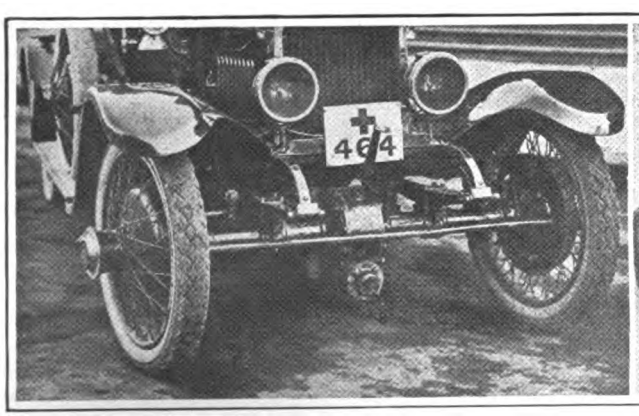
Briscoe production at Jackson is 1500 monthly. The 1919 sales are estimated at 15,000, and 1920 at 20,000.

Automobile Show in Pomona.

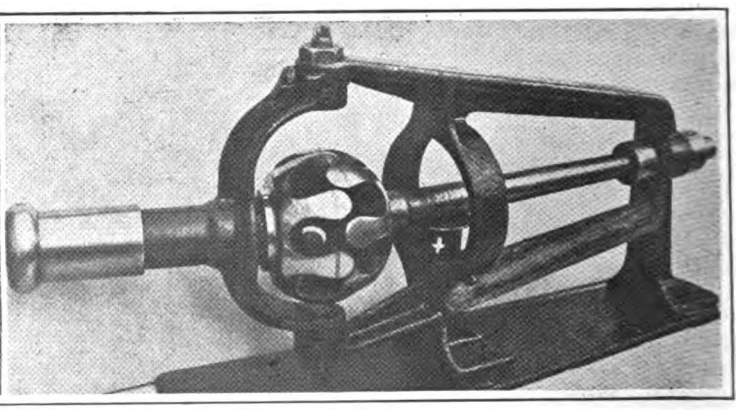
On October 30, when a pageant of progress was staged in Pomona, Cal., a three-day automobile show was opened, to close today. The exhibit comprises automobiles, motor trucks, tractors, etc., being housed in a huge tent on the railroad grounds in the business district. The general committee, composed of all the dealers, has Jesse McComas as chairman and W. B. Gates as secretary. Among the dealers exhibiting are E. E. Booth, W. B. Gates, C. R. May, R. H. Carter, McComas & Goodwin, George M. Huebsch, Fred C. Trickey, Clark Bros., Harry Hinman.

Law Against Road Shooting Defied.

A California motorist was arrested for alleged violation of the new motor vehicle law against shooting (at game) from an automobile. He made a test case. A superior judge holds the law unconstitutional, and not germane to motor vehicle legislation. Justice Cox, of Santa Ana, Orange county, known as a terror to speeders, whom he not only fines but incarcerates, for once is on the side of the culprits. He will not try anyone for shooting at game from automobiles, he says, unless the superior judge's ruling is declared to be wrong.



SHOWING HOW THE CAR IS PULLED FROM THE FRONT, AND DIFFERENTIAL ATTACHED TO FRONT AXLE.



SHOWING DRIVING SPINDLE HAVING NO SUPPORT SIDEWAYS. GEAR ACCOMMODATES ITSELF, ALWAYS KEEP DEAD CENTER.

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THE STRAIGHT PATH IN USED-CAR SALES

Los Angeles Dealers Prepare to Combat Questionable Methods Resorted to in Selling Second-Hand Cars.

The questionable methods of selling used cars employed by some dealers in the business is the special target of attack selected by the Used Car Dealers' Association in Los Angeles. J. E. Morrison, formerly of the police department and now assistant secretary of the Association, will be an active investigator of such irregularities.

Individuals who own an automobile that they want to dispose of will not be handicapped in any sense by the Association, but dealers posing as private owners in need of cash and who come into straight business competition with licensed dealers will be forced to change their tactics if the Association is able to locate them.

"Passage of an ordinance by the Los Angeles city council making it necessary for a dealer in used cars, whether his place of business be in the residence or downtown section of the city, to post a sign announcing the fact, seems assured," was the recent announcement of one of the Association's officials.

"When this ordinance becomes operative the Used Car Dealers' Association, in the public's interest and that of its members, will do all within its power to aid the police of the city to enforce the terms of the ordinance.

"No member of the Association would think of trying to effect a sale by resorting to a plea such as sickness or an enforced return East and similar reasons given by questionable dealers. Of course, there are times when illness does make it necessary for an individual owner to sell a car, or the other reasons might hold in the case of an individual.

"It is just as well for the public to understand that a dealer in used cars conducts his business along the channels of straight business. His reason for wanting to sell a car is that he feels he has something someone really wants, something that gives the service he says it will, something represented just as it is, something that if sold at a price represents a return to him that merely repays him for handling the transaction with a margin of profit that is always a fair one. A bona fide used car dealer can always be located by a person after a car has been purchased, whether it is an hour or a year later."

Members of the Used Car Dealers' Association are co-operating with the Motor Car Dealers' Association of Los Angeles to bring about a change of location of the registration office of the State Motor Vehicle Department in Los Angeles. The Department's local bureau, they hold, should be somewhere in the district where are located most of the city's large automobile concerns. Its present location on West Second street, they say, means a waste of time traveling there and an aggravation of the traffic congestion afflicting the downtown section.

Wayne Tank Moves in S. F.

The Wayne Oil Tank & Pump Co., of San Francisco, Cal., is now located in more central and larger quarters at 627 Howard St. The company's former location was at Fourth and Harrison Streets.

HELP SCOTCH THE AUTOMOBILE THIEF.

Every automobile owner in this country is helping to pay for machines that have been stolen.

They are paying for the cost of thievery in many ways, but principally through the tremendous increase in thief insurance rates that have swept the country from coast to coast. Today it costs anywhere from double to fifteen times as much to insure a car as it did four years ago.

The resultant failure to recover the theft of the other fellow's car in one case out of three has been responsible for this high increase in the insurance costs.

Even motor locks do not seem to deter the expert thief. The theft of cars from private garages is a growing business, too. A motor car owner cannot protect his property by locking it securely and then applying a lock to the car itself.

Every possible assistance should be rendered to support the measure of Congressman L. C. Dyer, of St. Louis, designed to check this evil. The bill makes it a crime punishable by ten years' imprisonment to steal a car and take it across the border of the State in which it is stolen.

Under existing laws the State in which a car is stolen cannot summon, as witnesses, the person to whom a car is sold, if those persons live in another State. The Dyer bill makes provision for this fallacy in our present statutes, and should receive the hearty support of every automobile owner in the United States.

The motorist who thinks he has not felt the hand of the despicable automobile thief, merely because he has been fortunate enough to escape the ravages of the organized bands that make a practice of stealing cars, is looking at the matter through rose-colored glasses.

—President J. D. Dort, Dort Motor Car Co.

Harris Retreader Goes East.

The Harris Equipment Co., of Los Angeles, Cal., has consolidated with the Crescent Machine Co., of Akron, O. The manufacture of the Harris One-Operation Retreader will be carried on in Akron.

The Harris plant and sales rooms in Los Angeles have been taken over by Gayer & Connelly, who will represent them as sales agents and distributors in Southern California, Nevada and Arizona.

The Harris One-Operation Retreader will be on the market within three months. The vulcanizing of retreads is done in one operation and takes only 45 minutes for curing.

Patterson Truck in Los Angeles.

A new heavy-duty truck, the Patterson truck, designed by J. Neil Patterson, is to be manufactured in a factory in Los Angeles, Cal. "Our truck will be made up of the best assembled units the market now affords," stated Patterson recently. "Special attention has been given to cooling efficiency, lubrication, gear ratio and frame suspension—vital points in the successful operation of motor trucks under Western conditions."

Patterson is very well known in Los Angeles. Several years ago he organized the Los Angeles Trailer Co. and still remains its vice-president, although devoting all his time to the new Patterson Motor Truck Co., which will build a plant in or near Los Angeles. E. W. Bennett heads the trailer factory as an entirely separate concern.

During the war the head of the new Patterson organization was Capt. Patterson in the air service. For a while he was district manager of production with headquarters in San Francisco, supervising Aviation and Signal Corps production work on the West Coast. Later he was transferred to Detroit and had charge of battle and bombing plane production until the armistice.

Phoenix Is Racing Hub Now.

Cliff Durant and Mickey O'Hearn have entered the 100-mile free-for-all race to be held at Phoenix, Ariz., Nov. 8, as part of the state fair. Art Klein is another strong possibility. The field of starters may be more than twenty cars. E. Waldo Stein will drive an Oldfield Special. Louis Chevrolet and Barney Oldfield both wired recently from the East for entry blanks, each having a number of possible entries. Making up the racing program, two other races will be staged, one of 50 miles open only to Arizona, Mexico and Texas cars and drivers; the other a novelty race.

Interest in the El Paso-to-Phoenix road race continues unabated. The run is being staged under the auspices of the automotive and highway department of the El Paso Chamber of Commerce. Many Arizona drivers are expected and twenty from El Paso alone. Special timers will be placed along the entire route and the night control will be at Bisbee. The run is in fact an advertisement of the Borderland Route and special prizes are offered counties through which the fastest time is made.

Hanshue Visions New Home.

Harris M. Hanshue, manager of the Los Angeles, Cal., branch of the Apperson Motor Car Co., is planning the erection of a new sales building for his organization. The site considered is the northwest corner of Eleventh and Flower Sts.

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Energetic Idaho Modernizing Her Highway System

Will Spend Over $17,000,000 in 1919-20 for Additions and Improvements—Amount Available Under Federal Aid Far Short of What is Required—Thirty State Highways, of Which Four Trunk Roads Run North-and-South and Four East-and-West

By WILLIAM J. HALL, Commissioner of Public Works, State of Idaho.

IN CONNECTION with the movement for improved roads which extends all over the United States, the people of Idaho have demanded that the State highway system be greatly extended, and that the county systems also be improved. With a view to meeting this demand the last Legislature passed a law authorizing a levy of two mills on the assessed valuation of the State to provide a fund for the construction of State highways.

That the citizens of the State are in accord with the action of the Legislature is evidenced by the fact they have voted during the year, between $10,000,000 and $12,500,000 to provide further funds for road construction.

Under provision of legislative enactment creating a cabinet form of State government, which centralizes within a few departments the exercise of functions heretofore performed by heterogeneous commissions and boards, the State highways in Idaho are now under the supervision of the Bureau of Highways, within the Department of Public Works.

At present there are thirty designated State highways, aggregating some 3800 miles of road. In locating these highways many serious problems have been encountered, due to topographical and geographical features of the State.

Of the thirty State highways, four are main highway routes traversing the state from north and south, namely: Yellowstone Highway, Idaho-Montana Highway, Sawtooth Park Highway and North and South Highway. Four main highways traverse the State from east and west, namely: Idaho Pacific Highway, Idaho Central Highway, Lewis and Clark Highway and North Pacific Highway.

The balance of the designated state roads are located with the purpose of making accessible many of the scenic wonders of the State, or for purely economic reasons to serve as trunk lines for the ever-growing motor truck and other traffic of inter-community and county business.

There is approximately the sum of $17,180,000 available with which to improve the roads and highways in the State of Idaho during the biennium of 1919 and 1920, as follows:

Federal Aid (approximately)	$ 3,360,000
Federal Forest Aid	700,000
State Aid	1,850,000
County and Highway District Bonds	11,000,000
Motor Vehicle Tax (estimated)	270,000

A glance at this table will show that the amount of money available for use in Idaho under the terms of the Federal Aid Road Act is far short of what is required to meet the State, county and highway district funds. The State appropriation under the two-mill levy bill for the two years 1919 and 1920 amounts to approximately $1,850,000. On September 1, county and highway district bond issues amounted to over $11,000,000 and it is probable that for the years 1919 and 1920 they will amount to close to $15,000,000, which, in addition to the State appropriation, will make the sum available for highway construction about $17,000,000. Nearly all this money will be expended on roads which will be entitled to Federal aid under the provisions of the act. Therefore, to co-operate with the State, Federal aid funds for use in Idaho up to the end of 1920 **should** be over $15,000,000.

The matter of additional allotment to Idaho has been taken up with the Department of Agriculture and also with the Idaho congressional delegation. Information has been given, however, that it will be impossible to obtain any additional allotments unless further appropriation bills are passed by Congress.

The Bureau of Public Roads, Department of Agriculture, has been requested to permit the Department of Public Works of Idaho, after the exhaustion of the present Fed-

ON PICTURESQUE BOISE-ARROWROCK HIGHWAY. ARROWROCK DAM IS ONE OF THE WORLD'S GREAT ENGINEERING FEATS.

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LEWISTON GRADE IS A FINE EXAMPLE OF HOW IDAHO BUILDS ITS ROADS. TWO LEVELS ARE HERE SHOWN.

eral aid allotment, to proceed with highway construction, using State, county and highway district money; the Department of Agriculture to reimburse the State, county and highway districts to the full amount of State expenditures, the amounts so reimbursed to be used for further construction, and to be charged against and taken out of further allotments and appropriations made to the State of Idaho.

If this were done, it would eventually leave the State and the Department of Agriculture in the same position as they would be at present if the Federal aid funds were sufficient to cover the funds available in the State. The request for this action, however, has been denied. This is unfortunate, as practically all of the bond issues made by the counties and highway districts of this State were made upon the assumption that federal co-operation to the extent of 50 per cent of the cost of construction of roads upon which Federal aid could be applied under the terms of the act, could be had.

The total amount of Federal aid available for Idaho for the years 1917 to 1921 inclusive, amounts to $3,360,188.86. Project statements amounting to more than two-thirds of this sum have already been filed, and other statements which are about ready for filing amount to more than enough to absorb the balance.

There is now, either under construction or to be constructed during the next year, 624.7 miles of state highway, divided into the following classifications:

Gravel and crushed rock surfacing	314.3 miles
Earth and crushed rock	203.5 "
Concrete and bitulithic	66.9 "
Sand and clay	40.0 "
	624.7 "

at a total cost of $7,536,622.91. This mileage will be largely increased as fast as surveys and financing of other projects are completed.

Of this road building program, the project of greatest interest to the people of the state is the construction of the North and South highway. This great road, designed to connect the Snake river plains in South Idaho with the great grain belt, the Coeur d'Alene mining district, and the Panhandle in the North has long presented a most difficult and interesting engineering problem.

The North and South highway begins at Weiser, in Washington county, where it joins the Idaho Pacific highway—the main route across south Idaho. From Weiser it runs north through Council and New Meadows, thence through the canyons of the Little Salmon and main Salmon rivers, and via Whitebird to Grangeville. Thence to Lewiston at the confluence of the Snake and Clearwater rivers, thence to Moscow, where the state university is located, thence through Potlatch to St. Maries on the St.

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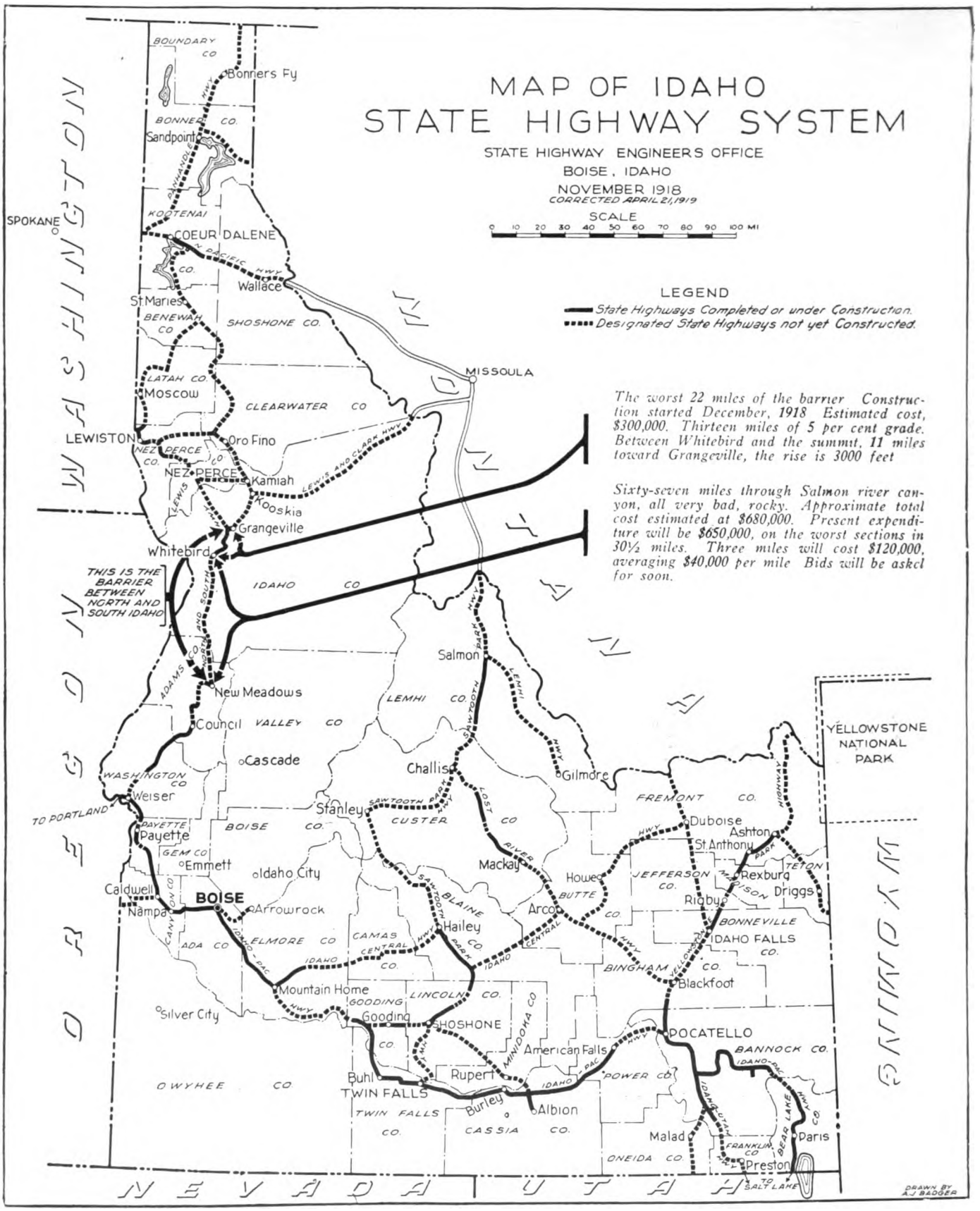

MAP SHOWING IDAHO'S ROAD SYSTEM WITH RELATION TO THE HIGHWAYS OF THE ADJOINING STATES.

Joe river, thence to Coeur d'Alene, where it cuts the North Pacific highway across Northern Idaho, and then on through Sandpoint and Bonners Ferry to the Canadian line.

The most serious engineering problem on this road lies in the section between New Meadows and Whitebird. This section includes 30.5 miles of extremely heavy construction along the Salmon river canyons. The contract for the worst sections of the New Meadows-Whitebird project has been let at a cost of approximately $679,000.

The North and South highway, from south to north, will be of gravel in Washington county, 40.5 miles; 30.5

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miles of earth and 21.7 miles of earth and crushed rock in Idaho county; 33.8 miles of crushed rock in Latah county; 12.5 miles of gravel and 1.5 mile of concrete in Kootenai county; 22.5 miles of gravel or crushed rock in Bonner county; and 18 miles of gravel in Boundary county. The estimated total cost is $2,501,934.

The end of next year will see the completion of enough sections of the North and South highway to make possible fairly rapid and convenient automobile travel between the southern and northern boundaries of Idaho.

There is also approximately 1000 additional miles of state highway under survey at the present time, the cost of which it is impossible to estimate as yet. A large amount of this work, however, will be advertised and let during the winter for construction in 1920 and 1921.

In addition to road construction and survey, five large bridges across the main Snake river in Southern Idaho will be built this fall and next summer at a total cost of approximately $500,000. These bridges are as follows: Owsley's Ferry, Grandview, Walter's Ferry, Pickle Butte, and Homedale.

In Northern Idaho, on the North Pacific highway, the Cataldo bridge over the Coeur d'Alene river at Cataldo has been completed, with approaches, at a cost of $37,700, and is now open for traffic. The North Pacific highway is a part of the national Yellowstone Trail, over which tourist travel is particularly heavy, as it is the only route from the Coeur d'Alene mining district to Coeur d'Alene city and Spokane in the west. The bridge is steel truss span, 200 feet in length with an 18-foot roadway. It is set on heavy concrete piers, the west pier being constructed on solid rock foundation, and the east pier consisting of a heavy concrete structure built around a cluster of 44 piles.

With the entire program as outlined above completed, Idaho will have a system of highways connecting all parts of the state, providing excellent roads for ever-increasing tourist travel, opening up hitherto inaccessible beauty spots among the mountains, and furnishing an outlet for many undeveloped regions in the interior of the state.

The question of obtaining adequate Federal aid is, as indicated, of greatest moment to Idaho as well as all other western states, where there is yet a relatively small population to bear the burden of road building over vast stretches of difficult country, much of which is included in the so-called public lands, held by the United States.

The Federal Aid Road Act should be so amended as to provide a more just and equitable method of apportioning funds to the states. Special appropriations for the construction of roads in or adjacent to the public domain of the United States should be provided. To this end the appropriations for application under section 8 of the law, that is, for forest roads, should be increased to an extent which would permit the construction and maintenance of an adequate system of highways, through and adjacent to the National forests, at the sole expense of the Federal Government.

The act should also be so amended as to permit the construction of post roads on a 50-50 basis whenever state and local funds are available at the time; the state or local authorities to be reimbursed for the full amount expended in such construction whenever Federal aid funds are made available and upon such reimbursement being made, the state or local authorities would then expend the amount of such reimbursement in extending the post road system. It is, of course, contemplated that such construction would be done under agreement with, and in accordance with the standards and requirements of the Federal authorities.

Such a scheme would have the advantage of permitting work to proceed as fast as any funds were made available, and would obviate such conditions as now exist in Idaho, where state and county funds amounting to about $14,000,000 are ready for expenditure on post roads, with only $3,360,000 Federal post aid available for co-operation.

To obtain Federal aid, however, through the provision of legislation such as proposed by the Townsend bill for trunk roads, or any other legislation of similar nature, would not be of benefit either to Idaho or any other Western state.

Some of the objectionable features of the Townsend bill are clearly set forth in an excellent comparison of the Townsend and Osborne bills by Mr. George F. Cotterill, of Seattle.

Mr. Cotterill points out the fallacy of determining the mileage of a national highway system on the basis of percentage of existing road mileage. It is also shown that the appropriations provided for in the Townsend bill are entirely inadequate. They total only $425,000,000. Even at $30,000 per mile for first class roads, this would build only 14,133 miles, whereas about 50,000 miles would be needed for a satisfactory system of national scope; not to mention cost of maintenance and overhead expenses.

If a national highway system is to be created, a capable commission to select and designate routes, and to determine construction standards, is essential. Such a commission should consist of from nine to twelve members.

No plan for a national highway system should require surrender to the National Government of title to the highways included in that system. Such a provision is unnecessary, and further, it is doubtful if such transfer of title would be legal without special legislation by each state affected.

In my judgment the powers and duties conferred upon the proposed commission by the Townsend bill are too broad and too far-reaching. The cost of an organization such as it is proposed to establish would be enormous and nothing could be accomplished thereby that cannot be better and much more cheaply accomplished by a commission which could co-ordinate the efforts of the different state highway organizations. It does not seem desirable, under existing circumstances, to add any overhead charges that can be avoided.

I believe that the present Federal Aid Road Act, amplified and amended, would be preferable, both from the National highway viewpoint, and from the viewpoint of the State highway organizations, to the Townsend bill or any other legislation proposed at present.

$425,000 for Lincoln Highway in Nevada

All of the bad highway stretches on the Lincoln Highway where it runs through Nevada between Ely and Carson City, 64 miles, are to be eliminated by the end of the year 1920. The sum of $425,000 is to be spent on the Highway running through four counties. This total is made up of $63,000 donated by the General Motors Corp.; $15,000 by Willys-Overland; and the remaining of Federal road aid, state and county funds. During his recent visit to the Coast accompanying the trans-continental Motor Transport train, A. F. Bement, of the Lincoln Highway Association, placed the $68,000 donated by the two automobile companies in escrow at Carson City.

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Author of Scott Plan Talks

Devisor of Regional-Initiative Method for Obtaining Nation-wide Road System Discusses Townsend Idea

PUBLIC ATTENTION is being strongly focused upon the idea of so handling road construction as to not only secure the best obtainable roads but to so coordinate the main highways systems of the 48 states as to form a vast system of national scope. Especially is public attention being drawn to the Townsend plan, as set forth in a bill introduced in Congress by Senator Townsend of Michigan. This plan is for the federalization—placing under federal owenrship—of practically the entire main highway systems of all the states.

Wisner Gillette Scott, whose name now is quite familiar to "Motor West" readers in connection with highway matters of magnitude, has given the Townsend plan much study, and has evolved a substitute based upon the theory that counties, states and regions, successively, should have the initiative in any national plan of such great importance to them, as well as upon the theory that states should not surrender what are the very vitals of their economic life, in return for federal service and the use of the people's common funds. Mr. Scott also is the author of a military highway defense plan for the Pacific Coast.

To Mr. Scott, therefore, a "Motor West" representative went with a request that he discuss the Townsend plan. Upon being urged he put aside his characteristic reserve and expressed himself as follows:

Several National Highway measures have been proposed, conspicuous among which are the Townsend and Osborne bills. The latter is marked by exceptional perspicuity and ability of construction and tends to convey a more favorable impression than the former.

Yet, because of what appears to be chiefly due to a very energetic and extensive propaganda in its behalf, alleged to be supported by heavy commercial interests, the Townsend Bill, S. 1309, has succeeded in gaining more prominence than any other.

I have read it carefully and there seems to be a strong possibility of objectionable interpretation, which would impair its value for all parts of the country, including the Pacific Coast.

I noticed an omission which I consider an important defect. That is the failure to specifically recognize the strategic value of a road system for purposes of national defense,—and the neglect to indicate co-operation of the War Department in ascertaining that which is of greatest advantage for military use as well as commercial.

The general intent is doubtless all right, but the words only can be considered, for they absolutely govern. There is a region famous because of its wide advertisement, where, it is reported, good intentions are in extensive use for paving material, but never a word has been heard claiming any benefit therefrom, which very naturally causes any unbiased person to question that type of construction.

This Senate bill 1309, presents several features which apparently are open to objection, On page 4, in Section 5, it is stated:

> The National Highway System shall not include any highway in a municipality having a population, as shown by the latest available Federal census, of five thousand or more, except that portion of any such highway along which the houses averages more than two hundred feet apart.

Inasmuch as the proposed commission of three men in Washington is authorized to provide and promulgate all needful rules and regulations pertaining to the System under their control, there is a possibility that in numerous instances a conflict of authority might arise concerning streets inside of municipal limits, which would be frequent cause of inconvenience, if not of dispute, detrimental to every one concerned.

The distance between houses does not define with sufficient accuracy where the power of one ends and the other begins.

There are many municipalities with population of five thousand or more, and with portions of streets well inside the municipal limits bordered by residences more than 200 feet apart, where municipal control admirably serves every interest involved. In such cases federal control would be an intrusion both unnecessary and undesirable.

The custody of all streets inside of the limits of any municipality with population of 5,000 or more should be vested in the municipal authorities.

On page 5; section 6—mark the words—It says that the commission shall do everything, or it may arrange with the state highway departments to do everything subject to the control of the commission. That is exactly what it says.

The word "may" appears very much like a rubber band with a good deal of stretch. It jeopardizes the state highway department, because the commission in Washington would by this be given the power to ignore the California highway department and condemn it to enforced inactivity, which is equivalent to abolishment.

On page 6, section 9, is a complete surrender to the United States of the state highway system of California, and it means further—mark the words: "And the commission is authorized to require of such state or civil subdivision such additional rights of way, without cost to the United States, as it may deem necessary." Another rubber band.

On page 8, section 11 says that the commission is authorized to provide and promulgate all needful and regulations, etc. Note the inconsistency. The commission shall provide regulations for preserving and protecting the highways and insuring the safety of traffic therein, but the State shall retain jurisdiction over persons and property upon such highways. It is obvious that in any event the federal authorities would dominate.

On page 10, section 14—mark the words—the commission is authorized to purchase **supplies, material and equipment** and employ such means as the commission may deem necessary to the administration of this act. No strings nor bands there. That is all rubber. This would enable the commissioners, if they so desired, to disregard the usual procedure and, without seeking bids in various sections, place orders among a limited number of favored persons.

On page 11, section 15, it shows that the commission is authorized to issue permits and license for **openings into and the use of any portion of** the right of way comprised in the national highway system, for purposes not inconsistent with the laws of the United States or of the State, etc.

This says, in effect, that there can be a gigantic monopoly controlling absolutely all hotel, garage, gasoline and the many other privileges connected with motor travel and touring.

In case of a railway strike, our system of motor truck transportation would be securely bound in red tape in a city three thousand miles away.

California has a wealth of climate, scenery, good roads and hospitality, which the world is welcome to come and enjoy, but personally I do not approve of removing any part thereof permanently from the state.

First, last and all the time, I am in favor of a national system of highways built and maintained by the government, but under normal conditions, with retention of state ownership and administration.

Our national parks are of incalculable worth to the nation and in consequence thereof are gladly accorded by all people the exalted consideration which they deserve.

But I am not in favor of making national parks of our state highways.

In time of war the Federal Government should have complete jurisdiction, but in time of peace I think the state should control.

I strongly favor having state highways welded into a system of national scope, but believe that what is asked of the states in the Townsend plan is unwise, unnecessary and dangerous, and I would strenuously oppose such relinquishment of the rights of the Pacific Coast.

Federal Aid Only for Well-Defined State Systems

That Federal Aid funds should hereafter be expended only upon roads which are included in an inter-county system of main highways, is becoming a fixed policy in not a few states, despite the fact that the present Road Act does not require such use of the money. Wyoming and Washington are among the states which recently have practically decided to confine their Federal money to roads that count in well-defined state systems.

Beware of the wheels that wabble. They're expensive.

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National Show Exhibitors

Eighty-Seven Passenger Car, Sixty Truck and 134 Accessory Displays at New York and Chicago.

The National Automobile Chamber of Commerce recently held its drawing for spaces at the national shows in New York and Chicago. For the first time in the history of these annual exhibitions, motor trucks will be displayed at the same time that the passenger cars are being shown, but in separate buildings. The New York shows are scheduled for the week of January 3-10, while the Chicago exhibitions will be held January 24-31.

In the following lists the passenger cars and trucks will appear at both New York and Chicago in the majority of cases. Where the exhibit will be shown at only one show it is indicated by (N.Y.) or (C):

Passenger Cars.

Allen
Amalgamated
American Beauty
Anderson
Apperson
Auburn
Biddle
Briscoe
Buick
Cadillac
Case
Chalmers
Chandler
Chevrolet
Cleveland
Cole
Columbia
Comet
Commonwealth
Crow-Elkhart
Davis
Detroit Electric
Dixie Flyer
Dodge Bros.
Dorris
Dort
Elcar
Elgin
Essex
Fiat
Franklin
Grant
Haynes
Hollier
Holmes
Hudson
Hupmobile
Jackson
Jordan
King
Kissel Kar
Kline Kar (N.Y.)
Leach
Lexington
Liberty
McFarlan
Maibohm
Marmon
Maxwell
Mercer
Milburn Electric
Mitchell
Moline-Knight
Monitor
Monroe
Moon
Nash
National
Oakland
Oldsmobile
Olympian
Overland
Owen-Magnetic
Packard
Paige
Paterson
Peerless
Pierce-Arrow
Pilot (C)
Premier
Reo
Roamer
Saxon
Sayers
Scripps-Booth
Standard
Stanley
Stearns-Knight
Stephens Six
Stevens-Duryea
Studebaker
Stutz
Templar
Velie
Westcott
Willys-Knight
Winton

Motor Trucks.

Acason
Acme
All-American (C)
American
Armleder (C)
Atterbury
Autocar
Bethlehem
Brockway (N.Y.)
Clydesdale
Commerce (N.Y.)
Corbitt (N.Y.)
Defiance
Denby
Dependable (C)
Diamond T
Dodge Brothers
Dorris
Federal
Four Wheel Drive (N.Y.)
Fulton
Garford
Gary (C)
Gramm-Bernstein (C)
Indiana
International
Jackson
Kalamazoo (C)
Kelly (N.Y.)
Kissel
Koehler (N.Y.)
Maccar
Master
Maxwell
Nash
Nelson & Le Moon (N.Y.)
Obenchain-Boyer (C)
Oldsmobile
Oneida
Overland
Packard
Paige
Pierce-Arrow
Rainier (N.Y.)
Reo
Rowe
Sanford (N.Y.)
Schacht
Selden
Service (C)
Standard
Sterling (N.Y.)
Stewart
Union
Velie
Vim
Walker
Walter
Ward (N.Y.)
Wilson

Accessories at the Shows.

The demand for space by the manufacturers of parts and accessories is exceeding all records. Members of the Motor and Accessory Manufacturers Association whose applications for show space have been received to date, follow:

Exhibiting at New York and Chicago Passenger Car Shows.

Aluminum Castings Co.
American Bosch Magneto Corp.
American Chain Co.
Ames Co., The F. A.
Atwater Kent Mfg. Co.
Au-To Compressor Co.
Becker Brothers
Black & Decker Mfg. Co.
Blackledge Mfg. Co.
Briscoe Devices Co.
Brown-Lipe Gear Co.
Byrne, Kingston & Co.
Champion Ignition Co.
Chase & Co., L. C.
Cleveland Heater Co.
Continental Motors Corp.
Corbin Screw Corp.
Cowles & Co., C.
Cramp & Sons Ship & Engine Bldg. Co.
Detroit Pressed Steel Co.
Dixon Crucible Co.
Doehler Die Casting Co.
Dorr Miller Differential Co.
Dunham Co., Thomas
E. A. Laboratories, Inc.
Eclipse Machine Co.
Eisemann Magneto Corp.
Electric Storage Battery Co.
Essenkay Products Co.
Fulton Co., The
Gabriel Manufacturing Co.
General Electric Co.
Gould Storage Battery Co.
Gray & Davis, Inc.
Hale & Kilburn Corp.
Hartford, Inc., Edward V.
Hassler, Inc., Robert H.
Haynes Wheel Co.
Hill-Smith Metal Goods Co.
Hudson Motor Specialties Co
Johnston Mfg. Co., Wm. R.
Kales Stamping Co.
Klaxon Company
Kokomo Electric Co.
Lewis Searing Co.
Lipman Refrigerating Car & Mfg. Co.
McCord Mfg. Co., Inc.
Macbeth-Evans Glass Co.
Metal Stamping Co.
Midwest Engine Co.
Morse Chain Co.
Moto Meter Co., Inc., The
National Carbon Co.
National Tube Co.
New York Coil Co.
Northwestern Chemical Co.
Pantasote Co., The
Perfection Heater & Mfg. Co.
Pratt Mfg. Co., Wm. E.
Prest-O-Lite Co.
Rex Manufacturing Co.
Russel Motor Axle Co.
Schrader's Son, Inc., A.
Shaler Co., C. A.
Simms Magneto Co., The
Sparks-Withington Co., The
Splitdorf Electrical Co.
Stewart-Warner Speedometer Corp.
Stromberg Motor Devices Co.
Sunderman Corporation.
Texas Company
Triplex Safety Glass Corp. of America
U. S. Light & Heat Corp.
Universal Shock Eliminator, Inc.
Vacuum Oil Company
Van Sicklen Speedometer Co.
Veeder Mfg. Co.
Waltham Watch Co.
Warner-Patterson Co.
Wheeler Schebler Carburetor Co.
Willard Storage Battery Co.
Williams & Co., J. H.
Wire Wheel Corp. of America
Zenith Carburetor Co.

Exhibiting at New York Show Only.

Breeze Mfg. Co.
Brown-Lipe-Chapin Co.
Budd Mfg. Co., Edward G.
Budd Wheel Corp.
English & Mersick Co.
Ericsson Mfg. Co.
Kellogg Mfg. Co.
Laidlow Co., Inc.
Light Mfg. & Foundry Co.
New Era Spring & Specialty Co.
Superior Lamp Mfg Co.
Titeflex Metal Hose Corp.
Wasson Piston Ring Co.
Weston Electrical Instrument Co.

Exhibiting at Chicago Show Only.

Air Device Co.
Benjamin Electric Mfg Co.
Buda Co.
Columbia Axle Co.
Detroit Carrier & Mfg Co.
Edelmann & Co., E.
Halladay Co., L. P.
Imperial Brass Mfg. Co.
Oakes Co., The
Woodworth Mfg. Corp.

Exhibiting at New York and Chicago Truck Shows.

Aluminum Castings Co., The
American Bosch Magneto Corp.
American Chain Co., Inc.
Buda Co., The
Byrne Kingston & Co.
Challoner Co.
Clark Equipment Co.
Continental Motors Corp.
Dixon Crucible Co.
Eisemann Magneto Corp.
Gray & Davis, Inc.
Hudson Motor Specialties Co.
Lauraine Magneto Co.
Merchant & Evans Co.
Pantasote Co., The
Parker Axle & Products Corp.
Schrader's Son, Inc., A.
Sewell Cushion Wheel Co.
Splitdorf Electric Co.
Standard Steel Castings Co.
Stromberg Motor Devices Co.
Wheeler Schebler Carburetor Co.

Exhibiting at Chicago Truck Show Only.

Ames Co., Inc., The F. A.
Ericsson Manufacturing Co.
Essenkay Products Co., The
Waukesha Motor Co.

Dealers' Body to Admit Distributors

At the meeting of the directors of the National Automobile Dealers' Association, at Estes Park and Denver, Colo., recently, it was decided to admit the nation's leading distributors as sustaining members, by paying $100 each annually in addition to the dues of $10.

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Motor West
THE MOTORING AUTHORITY OF THE PACIFIC COAST

Established 1907
AN ILLUSTRATED AUTOMOBILE MAGAZINE OF QUALITY, ISSUED SEMI-MONTHLY.

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NOVEMBER 1, 1919

Why Street Car Tracks Will Pass

STREET CONGESTION becomes worse and worse. One way to greatly relieve it, and to also greatly decrease the cost of operating and the cost of depreciation of vehicles of all kinds, to the amount of many millions annually, and—something really worth considering, decrease in accidents and loss of life—will be to eliminate street car tracks in central city districts.

In one Pacific Coast city, in three months, nearly 5000 automobile accidents alone, resulting in 21 deaths, occurred. Unquestionably many of these accidents would not have occurred had there been more available street area. Statistics are not at hand as to the damage in property loss, nor as to the annual depreciation in cities, states or the whole country, due to wear and tear on vehicles and roadways, much of which is due to street car tracks.

In London, England, as long ago as 1890, street cars were practically non-existent. That was before automobile days, but even then the remarkable elasticity of street traffic, as compared with that of American cities, was apparent. Many lines of horse-drawn, double-deck omnibuses were operated. Instead of monopolizing a large portion of the street, as street cars (called tramcars over there) would, these big, clumsy looking vehicles maneuvered here and there, floating with the tide, now near the curb, now in the center, picking up and discharging passengers in a manner far more convenient, safe and speedy, with far less interruption of traffic, than is true in this land, where progressive ideas are so greatly vaunted. This is written by an American, born in Illinois and brought up in Missouri, the state which is not convinced until shown.

You have noticed, perhaps, in a careless sort of way, that if one vehicle, even a bicycle, is traveling a little distance from the curb, on a street in which there are metal rails, other vehicles approaching from behind swing toward the center, across one or more rails, for the safety of all concerned, as they pass. If they do not, accident and death may result. If they do, especially if they are not provided with extra shock absorbers, they are shaken from stem to stern. Perhaps speed is slackened, then resumed. All this eats up energy, time, material, money—untold millions of it, during a year. Poorly laid tracks increase the loss.

Observe that the space between two street car tracks, in the middle of the street, is used very little compared with what it would be if the tracks were not there. Wasted, valuable area; above all, increasingly as congestion increases, wasted time.

Observe how little, relatively, of the area of streets on which there are street car tracks is used for most of the time by the great majority of vehicles. This is easily seen especially on street paved with bituminous material, the shiny portions showing how little of the surface is actually used.

A steel wheel on a steel track provides, so far, the speediest means of transportation from city centers to outlying districts. In London this is availed of by means of railway trains which leave the city underground or in otherwise isolated areas. That, perhaps, will be the way we will solve it over here.

But solved the matter must be, of relieving congestion, of decreasing the gigantic wear and tear and loss of life and time, in our city streets; and in solving it the street car track will pass.

Developing New Motor Truck Routes

LAST June there began a survey by the Highway Transport Committee of the Council of National Defense, to find and relieve communities needing motor truck transportation, which means economical and speedy transportation and consequent development. This is in line with the splendid work being done by the Firestone Ship-by-Truck Bureau, under the supervision of which hundreds of men are employed throughout the United States, gathering information.

Indicative of the great interest of those who will be benefited, is the fact that branches of this bureau receive frequent inquiries from commercial men and farmers regarding motor truck line prospects and especially regarding return loads. More and more the impulse to enter the business of motor truck hauling grows. Only such routes as are deemed certain to be profitable are recommended in such cases.

Incomes of Pacific Coast Farmers

MANUFACTURERS of tractors, motor trucks, automobiles and automotive products generally will be interested in what Dean Hunt, of the College of Agriculture, says about California farmers, and which may safely be said to apply to farmers in other Pacific Coast states, as compared with those of Midwest and Eastern states.

Mr. Hunt says that in five years the labor income of California farm families has increased so that it is nearly three times what it was; that the average income is comparable to $2000 to $2500 a year in cities; and that the gross income of 100,000 California farmers now averages not less than $6000 annually.

No doubt similar computations in other Pacific Coast states would show similar facts. The moral for the producer of things to sell to farmers, and to all whose prosperity is linked with that of farmers, is obvious—cultivate the field where prospects are so good.

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National Shows an Asset to Automobile Selling

AUTOMOBILE manufacturers are unanimous in their agreement that the national automobile shows are of tremendous value to the automobile industry as a whole, says S. M. How, general sales manager of the Haynes Automobile Co. The national show is the opening broadside fired by the combined automobile companies of the country in the yearly campaign. It is really the start of the new season's business.

These gigantic exhibits, with their lavish decorations and beautiful productions of America's foremost artisans and engineers, are the mecca for all automobile enthusiasts. Without a doubt, the idea of the national automobile show had its inception in the principle involved in the big fashion shows, such as are held in Paris, where the styles and fashions for the world's raiment are featured. In Paris, the clothing representatives and buyers from the leading companies rendezvous and spend days and weeks examining the new fashions.

In the same way, the lovers of fine motor cars attend the national automobile exhibits and spend their time scrutinizing the products of the different companies—the new designs, the new fittings, and the changes in the body styles.

Camping Time By No Means Over

A MAN who recently came across the country leisurely remarked that all the way west from Ohio, every camping place at which his party stopped, twenty-one in all, had its full quota of users.

It gives us opportunity to say that camping time practically never ceases in some sections of the Pacific Coast region, and just now, after a refreshing rain has started rich green growths everywhere, the ravishing beauty of springtime is on the land while in the Middle West and East the horrors of winter are coming on. If no more rain comes for a time, there will be another springtime when it does come and the joy will be repeated.

It is pleasing to everybody. It must make a dealer's heart glad, particularly.

Now Comes the Winter of Our Content

NOW begins the earlier phases of winter discontent in the Middle West and East, due to climate. "We need a change of seasons," wrote an Eastern friend, "to keep us healthy and in good humor."

Poor man! What is a season? A week, a month, three months? In many parts of the Pacific Coast it may be said there is a complete season practically every 24 hours —nights refrigeratingly delightful, early mornings gloriously fresh, days pleasantly warm, evenings cool.

This makes for constant health and good humor. It makes for constant production, which means wealth, for us and for the whole world.

Many Millions of Tires Made

MULTIPLY the price you pay for one automobile tire by 28,000,000, plus a goodly sum, because a goodly portion are for motor trucks. Then add not less than 12,000,000 more for annual replacements, to say nothing of inner tubes. It makes quite a total, in numbers and in dollars. One could retire, acquire Bright's disease and die young, even with a small part of the sum. Putting the total number of tires at 40,000,000 and averaging their cost, including inner tubes, as low as $25, produces $1,000,000,000 on paper, which is not nearly as much as the actual money result.

Probably it is safe to assume that the average profit to users of tires is at least 5 per cent net, in one form or another; so that motor vehicle tires, producing profits of between five and ten billion dollars annually, and the number increasing rapidly, are one of the best little forms of investment to be found rolling around.

Heavy Additional Taxes on Motor Trucks?

IF THE MOTOR TRUCK ever received an opportunity to prove its indispensability, that chance was given by the great railroad strike which recently afflicted California. Briefly, the motor truck responded to every demand. Steam and electric transportation lay numb and helpless; the truck stepped into the gap, carrying food, supplies and passengers, and cities and towns were enabled to hold their grip on the outside world.

But as the gasoline commercial vehicle intrenches itself more and more firmly in popular favor it seems due to meet a growing hostility from other quarters. With these other interests it has competed (co-operated is a better word) in solving one of the greatest problems of the present day—transportation.

There is now a plan under way to persuade the California Legislature to impose a yearly license of $500 on motor trucks. There will be no lightening of the present taxes—the new tax will be superimposed on the present tax.

The foes of the motor truck are strong; they ruled California when gasoline vehicles were not yet thought of. Motor truck dealers and motor truck users are puny in themselves; combined, co-operating, they are a force that can and must force the abandonment of the consideration of such excessive taxation.

Beach Camping Ground Projected

THE WORD "camping" usually suggests mountains, pastoral scenes, creek sides, lake shores, whispering leaves, and so on. There is quite another kind of camping which must be included in one's life experience if the stay on this big little fly speck in the universe is to be well rounded, and that is where one can be lulled morning, afternoon and night by the low-turned murmur of the sea.

Nowhere on earth can this simple luxury be more agreeably reveled in than on the shores of the Pacific ocean. The writer often has slept through a sun bath on the sands in January, and with suitable covering there is no hardship on "winter" nights. One breathes the dampness in like balm of Gilead, and when morning breaks and the sunlight sweeps down the slopes and brings out the marvelous turquoise colorings of the breakers as they foam up on the beach, the eye sees, and the ear hears, a phono-cinematographic symphony.

All of which is meant to give "pep" to the news that the good folks of the Hope Improvement Association are planning for a beach spot between Goleta and Gaviota, where Californians and visitors to California may spend a few days of camping as pleasantly, or more so, than inland.

Join the Ship-by-Truck Movement.

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Beverly Hills Speedway

Rapidly Nearing Completion, and First Event to Be Staged Washington's Birthday —18 Starters the Limit.

EIGHTEEN cars will form the maximum field of drivers on the new Beverly Hills speedway, now in course of erection near Los Angeles and which will open its career in the history of Pacific Coast racing with the event to be staged on Washington's Birthday. The A.A.A. contest board recently returned the entry blanks for the race with its approval and specified the eighteen-car maximum in giving its sanction.

"We expected to have our field of starters limited to approximately this number," stated Speedway Manager A. M. Young recently. "This is because of the high speed the new track permits. At first thought it would seem that on a track 50 feet wide and a mile and a quarter long a greater number of cars than eighteen might be safely allowed. However, when the speed at which the cars will travel is considered, then it will be understood that it is scarcely wise to permit a greater number."

The work of building the track is going ahead without a halt. Recently forty tons of nails were ordered for the board track. The sound of hammers began some time earlier and lumber has been arriving at the rate of 40,000 feet per day. The grandstand will face north in the direction of the Santa Monica Mountains. For the sun worshippers the bleachers will be on the other side of the track. Jack Prince, nationally famous as a designer of racing tracks, is in charge of construction.

To Eastern racing men California has always been a sort of elysium of racing, especially during the winter season, and the new Southern California track has received very much of their attention. Many prominent racing drivers and A.A.A. officials will be present when the initial event is run, timing their visit so as to be present at both the race and the San Francisco automobile show. Richard Kennerdell, chairman of the A.A.A. contest board; Fred J. Wagner, official starter of automobile races and a former owner of "Motor West"; and other A.A.A. officials will journey Coastward after the close of the national shows.

Ridge Route Open About November 1

The Ridge Route, the well known connection between Los Angeles and the San Joaquin Valley, will be open to travel about November 15. All paving has been completed and work is being rushed on guard rails and curbing. The newly opened road will be one of the most remarkable paved mountain roads in the world; it is also with little doubt the most heavily traveled mountain road in the United States.

Owing to the heavy traffic upon it, the high elevation and the many curves unusual precautions will be taken to insure the safety of the constant stream of automobiles traveling between Bakersfield and Los Angeles. The speed limit will be 15 miles an hour; two motorcycle officers will be always patroling the highway to see that this is so.

There is a provision in the state motor vehicle law requiring that no baggage extend from the left hand side of a machine for more than 12 inches and this will be strictly enforced on the Ridge Route. Throughout its 29 mile length it will bristle with signs of warning and caution. The watchword of Ridge Route travel will be caution.

Nowhere in the mountains will the grade be more than six per cent. The Ridge Route in fact is a marvel of road engineering, leading through a region of wild scenic attractiveness and bridging by an easily travelable road the mountain barrier separating Southern California from the great agricultural region of the inland valley of California.

Dealers Urged to Search for Idle Freight Cars

Quick and concentrated action toward the relief of the threatened freight car shortage is being undertaken by the automobile industry. The efforts at present are being directed primarily against unnecessary delays in loading and unloading and in preventing the holding of cars for "prospective movements." Dealers are being urged to notify their factories by wire as soon as they discover that an automobile freight car or a string of cars is being unnecessarily held up. Hundreds of such cars are on the sidings, particularly in the western districts. Presumably these cars are being held for "later consignments," but they should be moved at once.

Coming Meeting of Service Managers

It makes a fellow feel more like going when the announcement reads: "Five cents a mile and $10 a day (maximum $100) will be allowed one representative from each member company attending. Any number of additional representatives will be welcome."

It is signed by Alfred Reeves, general manager of the National Automobile Chamber of Commerce, and sets forth the tentative program for the convention of service managers at Hotel Statler, Detroit, November 10-12. Discussion will include general service policies, factory service organization, service relations between factory and dealers, relations between distributors or dealers and customers. Other topics will be interspersed. The third day will be devoted to trips to factories.

Preparing to Improve San Bernardino-El Centro Road

The California Highway Commission has formally requested the supervisors of Riverside County to proceed to acquire by purchase or condemnation the rights of way required for the proposed highway extending from San Bernardino to El Centro, and to proceed with the building of such fencing and bridges as are necessary.

Calendar of Coming Events

Nov. 2—El Paso-to-Phoenix Road Race.
Nov. 8—Phoenix, Ariz., State Fair Races.
Nov. 27—Thanksgiving Day Race, Ascot Park, Los Angeles, Cal.
Dec. 29—Ascot Park 50-Mile Race, Los Angeles, Cal.
Jan. 3-10, 1920—New York National Automobile Shows (Passenger Cars and Trucks.)
Jan. 21-25—Spokane, Wash., Second Progressive Automobile Show.
Jan. 24-31—Chicago National Automobile Shows (Passenger Cars and Trucks).
Feb. 21-28—Fourth Annual Pacific Automobile Show, Auditorium, San Francisco, Cal.
Feb. 22—Beverly Hills Speedway, Los Angeles, Cal., Opening Event.

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PREVENTS ACCUMULATION OF CARBON

YOU can keep your motor snappy and full of "pep" by preventing the accumulation of carbon. Don't wait until your engine is choked and caked with it. Use JOHNSON'S CARBON REMOVER every 500 miles, then the carbon is removed while it is soft and powdery, eliminating the frequent grinding of valves and keeping the motor always clean. No experience or labor required—you can easily do it yourself in ten minutes—and the cost is trifling.

JOHNSON'S CARBON REMOVER

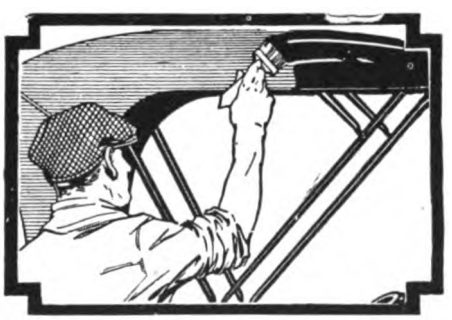
Johnson's Carbon Remover is a perfectly harmless liquid to be poured or squirted into the cylinders. Millions of cans have been used with satisfaction. It simply softens the carbon, then the heat from the engine pulverizes it and it is blown out the exhaust. **Johnson's Carbon Remover** contains no acids and does not affect lubrication.

It is the easiest, cleanest, safest and most satisfactory remedy for carbon. It will save you from $3.00 to $5.00 over any other method without laying up your car. A dose of **Johnson's Carbon Remover**—the engine laxative—will stop that knock—quiet the motor, and give the maximum power with the minimum amount of fuel.

JOHNSON'S

Hastee Patch

This is the ideal repair for tubes, casings and rubber goods of all kinds. No time, labor or heat required. A Patch can be applied in three minutes and it's so simple a child can use it. Gives equally good results on a pin hole puncture or on a large blowout.



JOHNSON'S

Black-Lac

Here is a preparation with which you can make your gray, dusty top and side curtains look like new. Johnson's Black-Lac is unequalled for blackening fenders, rims, hoods, lamps—and in fact, all worn metal parts. Prevents rust and keeps your car in a high state of repair.

JOHNSON'S

Radiator Cement

will stop leaks immediately without laying up the car—no mechanical experience required. It is absolutely harmless in every respect. It isn't a makeshift—it's a permanent repair. It will ordinarily seal a leak in from two to ten minutes. A half pint is sufficient for a Ford.

For Sale at Leading Hardware and Accessory Stores and Garages

S. C. JOHNSON & SON, M. W. 11, Racine, Wis.

ESTABLISHED 1882

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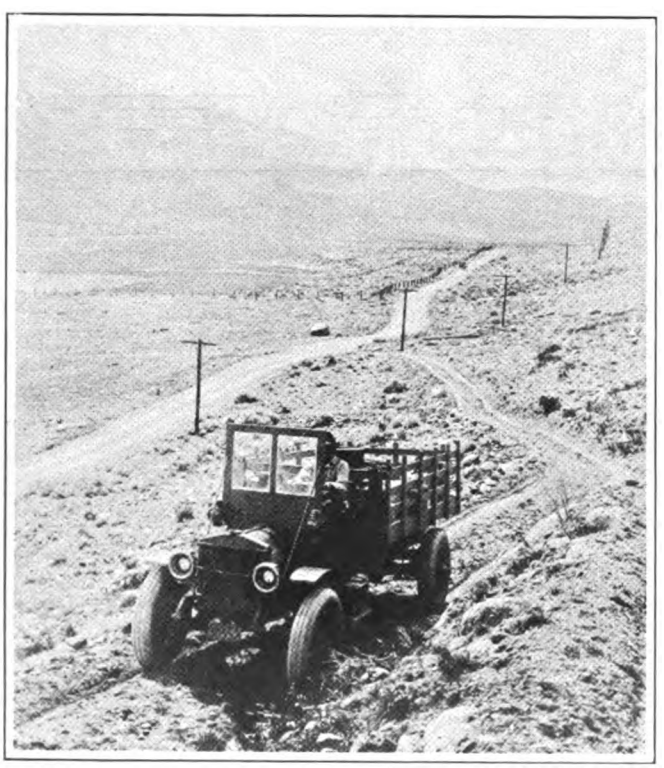
Truck Sales Managers Meet

Matters of Vital Importance to the Industry Will be Discussed at Convention at Detroit, Nov. 7-8

QUESTIONS of importance vitally affecting the manufacturers of motor trucks and their organizations and the truck user will come up before one of the most important of automobile gatherings, scheduled for Detroit November 7th and 8th, when the National Association of Motor Truck Sales Managers meet for what is declared will be the largest convention in their history. Already the plans are being laid and the meeting will be of import generally to the country, affecting one of the most vital branches of transportation. The convention proceedings and headquarters will be at the Hotel Statler, where the annual banquet also will be held.



GOODYEAR PNEUMATICS SPEED UP DELIVERY BY TRUCK.

Four years ago, L. J. Ginocchio was granted a franchise by the Railroad Commission to operate a truck in freight transportation work from Reno to Gardnerville, Nev., two two-ton trucks were put to work, and one round trip was made each day, traveling 104 miles in less than seven hours. However, this required a number of hours each day, picking up and delivering the freight, and a few hours cut from the running time was very desirable. One of the trucks was equipped with Goodyear Cord Pneumatics and within three months had done $900 worth of business more than the truck with solids, as it enabled the driver to pick up, transport and deliver these two loads—round trip—each day in less than eleven hours. The trucks cover mountainous roads leading into California, and the work is a severe test for the efficiency of the motor truck and pneumatic tires on such hauls. In one week one truck on solid tires hauled 20.2 tons, traveled 728 miles at a cost, including all items, of $105. The revenue was $161 at $8 per ton, leaving a profit of $56. The pneumatics have enabled the trucks to do more business in less time and with quite a saving in gasoline and other costs.

Already a number of allied industries are making application at the Hotel Statler to have exhibits of various kinds in progress during the convention. Whether this is feasible or will meet the approval of the committee having the affair in charge has not been determined. There are some members of the committee who want the convention to be strictly a business one, with no efforts made to distract the minds of the delegates from the all-important program which is being laid out.

The list of dinner speakers will be composed of men who say something when they talk. That the National Automobile Chamber of Commerce will be represented is known from the interest already displayed by them in this particular convention.

The actual business of the convention will be behind closed doors—but subjects of much importance will be discussed in terms that will prove they are of interest to keep the truck industry on the high plane on which it is now progressing. Among some of the subjects that it is reported that will be discussed are the following:

"Pneumatic Cord Tires on Trucks," "Price-Cutting," "Clean Merchandising," "The Banks' Relation to the Motor Truck and the Motor Truck User," "What Size Farm and What Kind of Farming Will Support a One-Ton Truck," "The Second-Hand Market Insofar as It Pertains to Commercial Vehicles," "How Should Trucks Be Distributed by Their Manufacturers—Through Distributors or Dealers?", "Should the Automobile Industry as a Whole Establish a Research and Advisory Department to Advise Municipalities as to the Building of Good Roads?", "Should a Truck be Manufactured and Sold to the Owner Completely Equipped?", etc.

Three committees are handling the heavy work, an entertainment and exploitation committee, which consists of H. A. Conlon (Acason), J. D. Hand (Wilson) and G. D. Wilcox (Commerce); the program committee, F. L. Pierce (Federal), H. S. Pritchard (Ford) and Mr. Hanson (Packard), and the financial committee, S. Deutsch (Signal) and J. Plath (Maxwell-Chalmers).

A Cushion of Air Makes the Road Smoother

The old Apache and Tonto Trails of Arizona are no better now than they have been in the past, but today a motor truck on pneumatic tires is making prompt hauls over these rocky defiles for a trio of ranches, totaling 70,000 acres, owned by the Barbour Brothers, near Roosevelt. Formerly the trip on trucks equipped with solid tires, to Phoenix and return, involving 127 miles, required 13 hours, but now on Goodyear cord tires this has been cut to 10 hours, and a gallon of gasoline which formerly propelled the truck 3½ to 4 miles now allows it to travel 7 miles, and the pneumatic tires have now delivered twice as much mileage as the discarded solids.

Growing Demand for G.M.C.'s in Washington

Five years ago, in 1915, there was a grand total of thirty-one General Motors trucks sold in the State of Washington. At the end of 1918, according to the information supplied by the Mack Buick Co., of Everett, Wash., there were 384 G. M. C.'s in the state. The year before, that is, in 1917, there were only 263, and at the end of 1916 the number was 157. Another hundred or more will be added to the total of 1918 at the end of the present year.

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Commerce TRUCKS

COMMERCE TRUCKS are sound, well-designed commercial vehicles, built of the best materials obtainable, thoroughly modern in every feature.

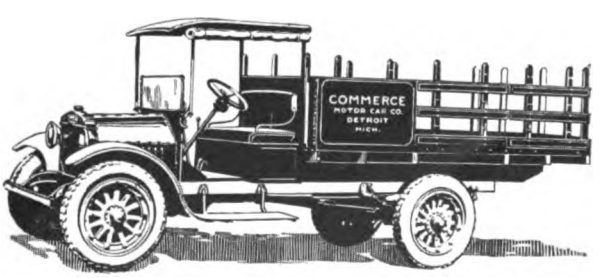
They are a real asset to any automotive dealer, not only because the ready sale they command brings immediate money profits, but because of the owner good-will that their performance steadily builds up.

Write or Wire Us for Particulars

The COMMERCE MOTOR CAR CO.

DETROIT :: MICHIGAN

CITY GARAGE, INC.,
1205 South Olive St., Los Angeles, Cal.
McCRACKEN MOTOR CO.,
Portland, Ore.
COMMERCIAL MOTORS CO.,
Seattle, Wash.
C. P. KIEL,
1830 Van Ness Ave., San Francisco, Cal.
SULLIVAN TAYLOR MOTORS, LTD.,
1260 Granville St., Vancouver, B. C.
W. B. WOOD,
Pacific Coast District Manager,
1205 South Olive St., Los Angeles, Cal.



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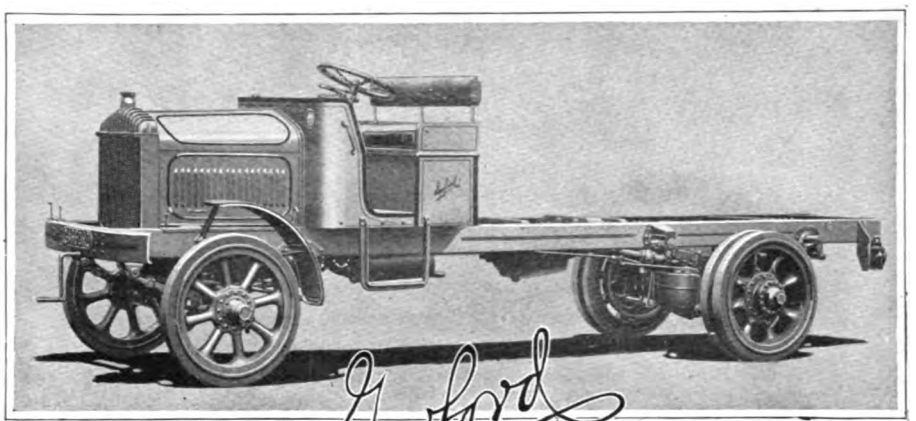
GARFORD

Announcing
New 3½ Ton Model $3990



Motor—4½ x 6"
Timken Axles

Steel Wheels
Four Speed Transmission

For Low Cost Ton-Mile

THIS newest Garford 3½ ton model is designed and built for the heavier task of hauling.

It is big, powerful—a giant in strength, and in every way lives up to Garford's standard of quality.

This new model embodies the best of Garford's twelve years of experience in the manufacture of high grade motor trucks.

There is back of it a five million dollar company and a Definite System of Service.

Garford quality is maintained throughout, and the exceptional price is made possible only through quantity production.

The design, materials and manufacture of this new model all combine in securing *low cost ton-mile* delivery.

"USERS KNOW"

Dealers should communicate with us for unassigned territory

The Garford Motor Truck Company, Lima, Ohio

TRUCKS

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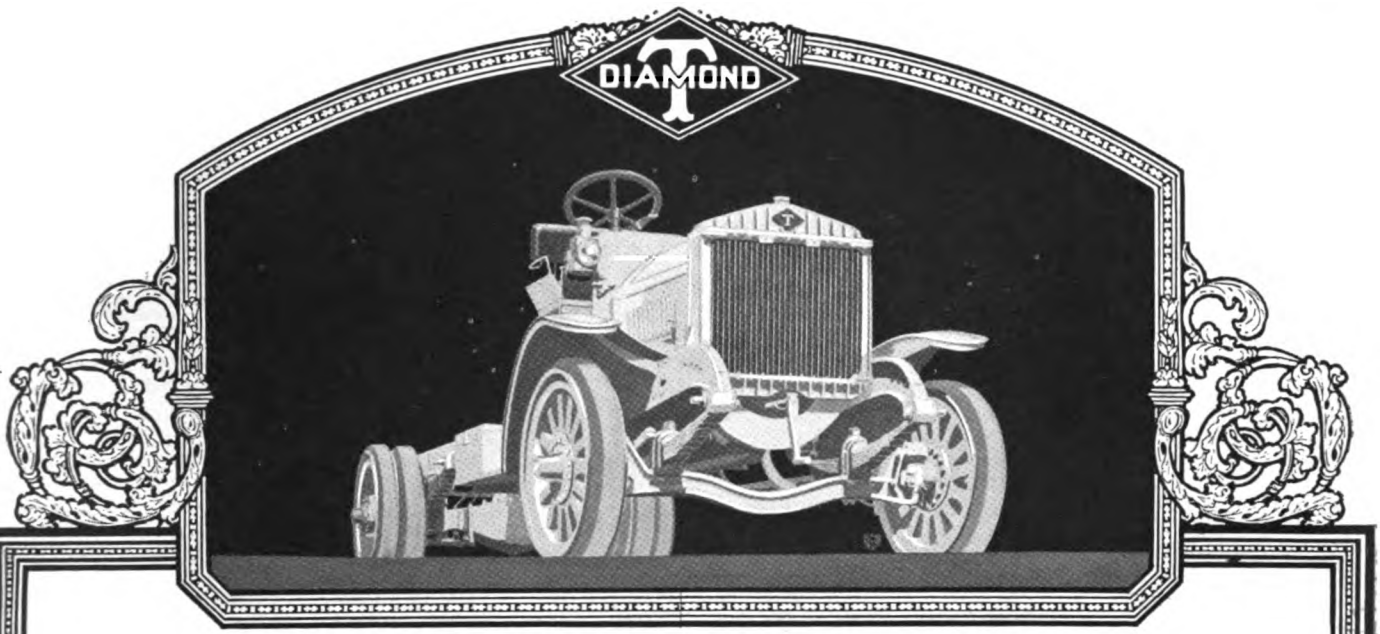

DIAMOND T

"The Nation's Freight Car"

A Truck *of* Tremendous Trifles

YOU HAVE TO DIG INTO A TRUCK, sometimes, to find where it is better than another make of similar capacity. Dig into any Diamond T, and see how many points that in themselves seem to be "trifles," are superiorities. Notice how the intermediate driveshaft and special bearing-carrier obviates "whipping" of the propeller shafts.

DISCOVER THE PERFECTED-HOTCHKISS type of drive used, that "saves the load from the road." Don't overlook the fact that Diamond T's springs are lighter and yet mightier than many truck engineers would call "necessary," because every leaf of every rear spring is separately tested —and because every leaf is all-chrome-vanadium steel, of 50,000 lbs. more "elastic limit" and 30,000 lbs. more "ultimate strength" than the next-best steel.

NOTE THE SQUARE-FIN construction of the military-duty radiator—those square corners giving just 20% more heat radiation than round fins of the same diameter. And, incidentally, in looking at that overhead-worm-drive axle, remember that in over six years no axle of that type has yet worn out. Absolutely silent and the simplest axle built, it is the only one that grows more serviceable with service!

Ask any Diamond T dealer about motor, frame and other units, and the Institution behind "The Nation's Freight Car." You will get substantial evidence to buy on!

These Distributors are behind Western Sales and Service:

Vernon A. Smith Motor Co.,
Distributors for the State of Washington
511-513 East Pike Street, Seattle, Wash.

Diamond T Truck Sales Agency of Oregon, Inc.,
Distributors for the State of Oregon
89-91 North Ninth St., Portland, Oregon

Hirsch Motor Company,
Distributors for Upper California
1131 Van Ness Ave., San Francisco, Cal.

The Walter H. Bissell Co.,
Distributors for Lower California and Arizona
1220 S. Grand Avenue, Los Angeles, Cal.

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How's This for Motor Truck Efficiency

Lee B. Hawkins, of Moneta, near Los Angeles, operates a fleet of eight Mack motor trucks, using them wherever needed, and keeping them busy. Recently a seed firm wanted to ship fifteen tons of seed to Calexico quickly. No freight car was available. The firm phoned Hawkins, asking if he could deliver the seed within two days. He did it with two trucks—one, a 3½-ton, carrying ten tons; the other, a 2-ton, the remaining five tons. With drivers and all, the total weight was sixteen tons. A stop was made when the mountain road between San Diego and Brawley was reached. At dawn the trip was resumed. Calexico was reached in thirty hours after the start.

As a return load, the two trucks took on nearly fifteen tons of dried milk at El Centro. This was delivered at San Diego. There fifteen tons of fish were loaded on and delivered in Los Angeles.

Reaching home at Moneta at midnight, the 3½-ton truck hooked onto a trailer and the truck and trailer delivered 17½ tons of tomatoes by next morning to a cannery at Sawtelle, west of Los Angeles. There a load of 7½ tons of well casing was taken and delivered that night at Elsinore, away over the mountains, a long journey southeast of Los Angeles.

Compare this performance with what would have been done by railroad transportation. No more remarkable example of motor truck efficiency could be asked for.

Poyer & Son, Transport Truck Distributors

With his son, Lester P. Poyer, mechanical engineer, back from very active service in France, D. F. Poyer of Los Angeles has formed the firm of D. F. Poyer & Son and will distribute the Transport truck in Southern California. It is made by the new Transport Truck Co., Mount Pleasant, Mich., the president of which, M. A. Holmes, was Republic general sales manager. The Transport is made in 1, 1½ and 2-ton capacities. A 3½-ton will be on the market soon. Poyer was formerly Republic distributor in Los Angeles. D. F. Poyer & Son have opened sales quarters at 1312 S. Los Angeles street in that city.

Although open for business only for two months in San Francisco, the Acason Sales Co., of that city, sold and delivered 30 Acason trucks during the month of September.

What Might Happen During Railway Strike

But for the motor truck the people of England would have been practically famine-stricken during the recent great railway strike. The significance of this motor truck relief over there is realized by relatively few in this country, but interesting figures have been furnished by the Firestone Ship-by-Truck Bureau.

On July 1, according to reliable statistics, 609,407 motor trucks were in operation in the United States, and it is estimated that within the next twelve months 180,000 more will be produced. Based on the July 1 figures, in case of a great railway strike there would be available a total motor truck tonnage of 1,860,000. This would be far from adequate, but would do much in saving our cities from actual famine; while in a few years the truck tonnage developed should insure plenty of food for cities in such a crisis.

The motor truck development means, not an elimination of railways for long hauls, but a revolutionizing involving even far greater railway efficiency. Necessary to motor truck development, and being stimulated by it, is development of highways of sufficient capacity for motor truck purposes, as well as for military purposes in case of need.

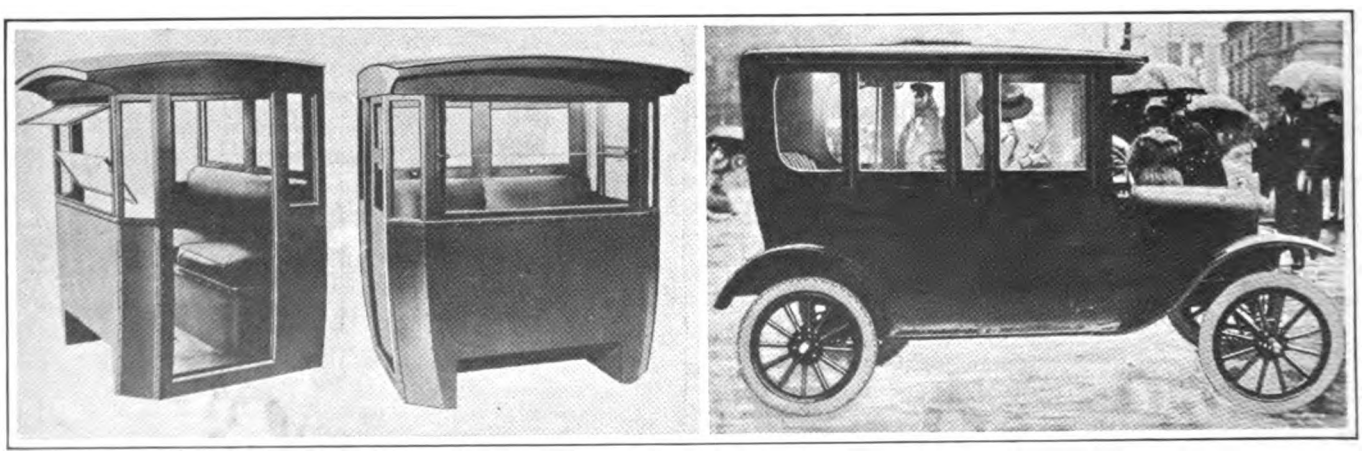
Freight Car Shortage Boosts Sale of Motor Trucks

The car shortage which is beginning to be seriously felt in many parts of the country has already had its effect upon the sales of motor trucks. In August the sale of Mack trucks, for instance, alone increased 64 per cent over those for July, and the sales for September increased at the same high rate.

The large proportion of sales of heavy-duty trucks indicates that the buyers purchased trucks to enable them to haul large quantities of material that they evidently feel they cannot count on the railroads to handle.

Another Southern California Tour, Maybe

The success of the recent motor truck tour by Los Angeles dealers has caused talk of a repetition, and one dealer has suggested January as a suitable month because, while it would probably present the maximum of difficulties, these would be so slight and so easily overcome that the efficiency of the motor truck as compared with older transportation methods will be more clearly set forth than ever.



PROTECTION AND COMFORT FOR DRIVERS SOUGHT BY TRUCK ENGINEERS—ALL-SEASON TOP FOR FORDS.

To afford complete protection from rain and cold winds, and insure bodily comfort for the truck driver who has to sit all day in a cramped, unhealthful position, which affects his disposition, and reflects in the efficiency of his work, not a few truck builders are using the Detroit Weatherproof Truck Cab, which is manufactured by the Detroit Weatherproof Body Co., Pontiac, Mich. This company has created and developed a new model, the bay window enclosed type. The combination of wood and a staunch gauge metal used in this cab makes it strong—but not too bulky—yet enough durability is put into its assembling to prevent any drumming or rattling. The outside four corners are braced with sturdy angle iron and the inside corners with metal angles, which make for greater flexibility.

The bay window type cab has new patented doors, with spring steel frames and clean cut Pyroline windows, which slide into the top through deep metal channels. The same accessibility applies to the windows. They slide down into the body of the cab when ventilation is desired. This is a distinct feature for the driver in signaling traffic, as it permits a clear view in any direction.

Dividing the windshield into two sections, permits just the desired opening by simply raising or lowering the vision part, while the other remains closed. On rainy days this gives the driver a clear view of what is ahead—making for safe driving. The cab is roomy enough to seat three passengers without crowding—has plenty of leg space, and its deeply upholstered cushions and lazy back insure bodily comfort.

This company also builds an all-season, storm-tight top especially adapted to Ford cars. This transforms the touring car into a neat and sturdy limousine, and the roadster into a comfortable coupe. The doors slide up in the top through metal channels, lie flat and are out of the way. A spring steel frame, strongly reinforced, is covered on both sides with high-grade imitation leather, in which is firmly stitched the pyroline for the lights. Since the doors always lie flat, whether in the deck out of the way, or pulled down for protection, there is no possibility of breakage, except by accident.

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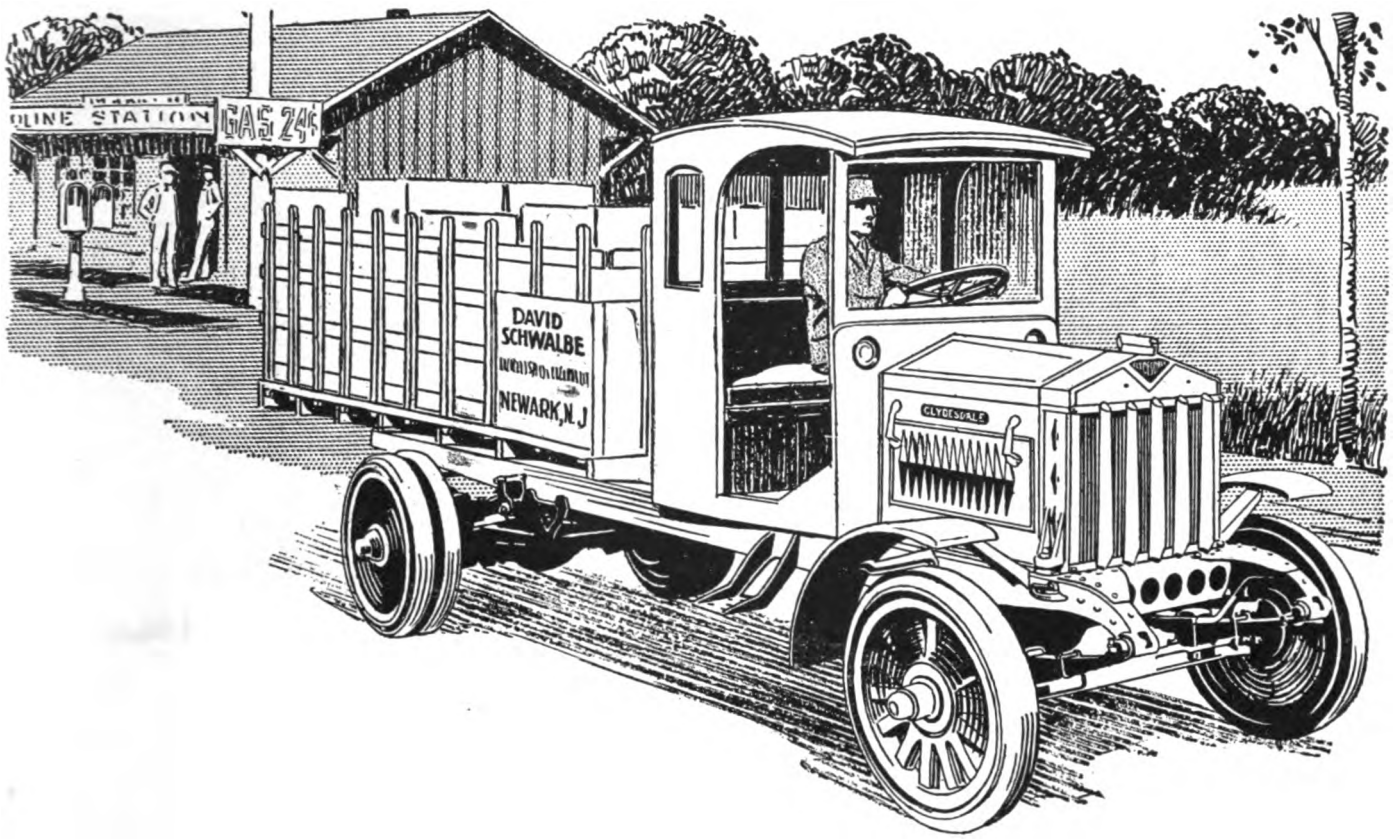

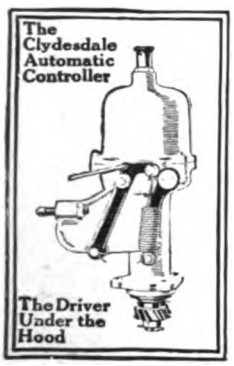

In spite of the important work which this little instrument does it is so simple in operation that it never gets out of adjustment.

No Other Truck Has It

How the
"Driver Under the Hood"
Saves Gas

Clydesdale users are surprised to find that such a brawny looking, sturdily built truck can be operated so economically.

In spite of the great power and oversize of Clydesdale, it can be operated on less gasoline than trucks of much smaller capacity.

It is impossible for a Clydesdale to waste gasoline because there is a little instrument attached to the motor called the "Driver Under the Hood" which absolutely refuses to allow more gasoline to be used than is necessary to furnish the exact amount of power necessary.

Whenever the truck is on the down grade or for any reason the pull is lessened the flow of gasoline is automatically cut down. It is impossible for the motor to race even when the clutch is thrown out quickly for the gasoline supply is instantly cut down to idling speed.

Of course when the truck hits an up-grade or a hard pull, the "Driver Under the Hood" increases the power in proportion, but always furnishing just the amount of gasoline necessary, never too much, and keeping the truck always at a constant speed.

This is one of the reasons why Clydesdale trucks have spread their fame in over 30 countries in every kind of business and under every conceivable condition.

Have You Investigated the Sales Possibilities in Your Territory

THE CLYDE CARS COMPANY, CLYDE, OHIO

CLYDESDALE

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HAUL IT IN A HALL

AMERICAN TRUCKS ARE SUPREME

LEADERSHIP of the international truck industry centers in the United States, simply because American built trucks are standard of the world—representing incomparably better value, dollar for dollar, than any produced elsewhere on the face of the globe.

And, among America's many fine examples of heavy duty vehicles, HALL TRUCKS are, at least, equal to the best.

That's because HALL TRUCKS are the direct result—the definite physical answer to a great haulage problem, successfully worked out by THE LEWIS-HALL IRON WORKS organization in its own cartage interest.

An organization possessed of a daily knowledge and experience in the fabrication of metals—the basic material from which all trucks are made—dating back to 1873.

Each HALL TRUCK is the product of that knowledge and experience.

Each HALL TRUCK carries with it 46 years manufacturing and business responsibility.

A Hall 5-7 Ton Truck

Naturally the conservation of that Good Will, built up during all those years, means that each HALL TRUCK is as good as money, material and master-metal-skilled-workmanship can make it.

We have some splendid open territory and our selling franchise covers a complete truck line of 4 chassis models and any type of body. We will consider it a privilege to explain our dealer proposition to you. Address, Sales Manager, **15**— Roby Street. Detroit, Michigan.

As Manufactured by
The LEWIS-HALL IRON WORKS
DETROIT, MICHIGAN.

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Oldsmobile Dealers Have a String On Every Truck Prospect

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- Hardware –
- Dry Goods
- Oil
- Omnibus
- Live Stock
- Farm Products
- Fruit
- Milk
- Rural Express
- Post Office
- Fire Dept.
- Bakery

Every truck prospect is an Oldsmobile Economy Truck prospect, for it is adaptable to every business. That is one reason why it leads the light truck field.

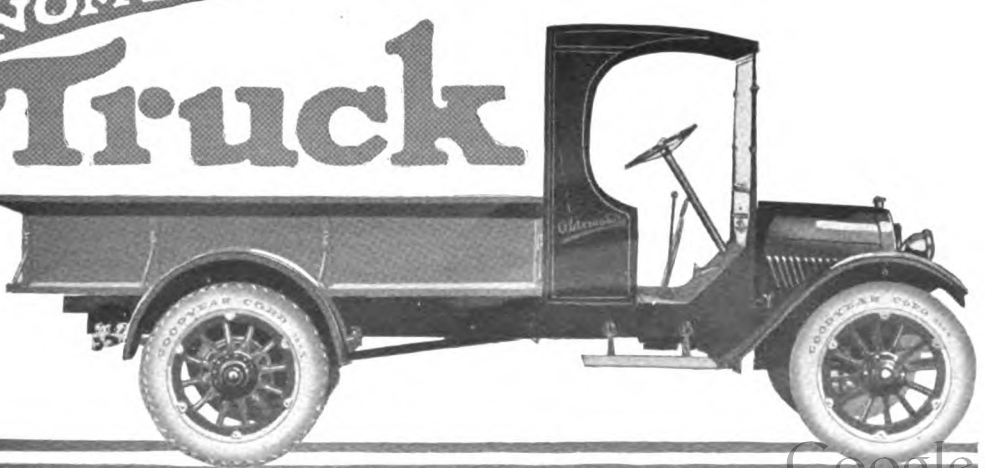
Other reasons are:
Powerful valve-in-head motor; internal gear drive; deep channel frame; complete electrical equipment; 35 x 5 Cord Tires all around.

Twenty-two years of Oldsmobile super values. Get the particulars.

Write or wire if your territory is open.

OLDS MOTOR WORKS
LANSING, MICHIGAN

Oldsmobile ECONOMY Truck



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Ace Truck Appears on Coast

Built by American Motor Truck Co. in 1½- and 2½-Ton Models, Fully Equipped on Delivery

ONE OF THE latest motor trucks to make its appearance on the Pacific Coast is the Ace, built in 1½- and 2½-ton models by the American Motor Truck Co., Newark, O. These trucks are being marketed fully equipped, with all-weather steel cab, electric lights, self-starter, steel wheels, odometer, mechanical horn, governor, trailer connection, and a special device to make the headlights track automatically with the wheels. The whole job is turned over to the owner completely painted.

The motor of the Ace is of Buda construction, 3¼x5⅛ 30-horsepower in the 1½-ton model and 4¼x5½ 36-horsepower in the 2½-ton job. Ignition system is made up of the Exide battery, Atwater-Kent distributor and Westinghouse generator, the self-starter being of the Westinghouse-Bendix drive type. The Wheeler & Schebler carburetor has a hot-air attachment and dash control. Brown-Lipe transmission and clutch, with control of same design, are used in both models, with three speeds on the 1½-ton model and four on the larger truck.

The Modine Spirex sectional radiator is of such construction that the truck does not have to be laid up for repairs if it is damaged; a damaged section can be replaced in a few minutes at small expense without removing the entire radiator. If a new section is not at hand, the circulation in the damaged section can be plugged and the truck run until the needed section may be had.

In the illustration showing the frame of the Ace under strain the advantages of the Hotchkiss drive and the special three-point suspension are apparent; with this construction it is impossible to break a motor leg. Another feature of the Ace frame is the fact that frame, all rods and drive shaft are parallel, and under load there is a direct drive from the crankshaft to the rear axle, there being absolutely no universal action.

Front axles are Stan-Par or Timken, with Timken taper roller adjustable bearings in hubs and steering knuckles of the larger model, and rear axles of Stan-Par-worm drive or Timken-David Brown type. The springs are of Mather chrome-vanadium steel. The brake equipment is specially sturdy, the drums being 15⅝ inches in diameter on the 1½-tonner and 18 inches in diameter on the 2½-ton model, the brake-shoe width being 1¾ and 3½ inches respectively.

On the smaller model wood wheels 34x3½ front and 34x5 rear are standard, while on the 2½-ton job Dayton cast-steel wheels are standard, 36x4 front and 36x7 rear. Veeder hub odometers are a part of the equipment of all Ace trucks. Firestone solids, pressed-on type, are standard Ace equipment throughout. Each model carries a pressed steel gasoline tank of 20 gallons capacity.

The wheel-base of the larger model is 156 inches for the standard body and 144 inches for the dump body, with a tread of 58½ inches. On the 1½-ton job the wheel-base is 144 inches and the tread 58 inches front and 57½ inches rear. The Ace steel cab is the acme of driver-comfort, with its rain-vision windshield, sliding doors and windows and large comfortable seat.

Transportation Methods Old and New Compared

According to A. C. Burch, sales manager of the Clyde Cars Co., one of the greatest demonstrations of live stock hauling by motor truck was conducted recently at Mason, Iowa.

At the conclusion of the North Iowa Fair, the promoters were confronted with the problem of returning the live stock which had been sent in for exhibition. It happened that seventeen trucks, sent out on a development tour by the National Association of Motor Truck Sales Managers, were in Mason City. Some of these were pressed into service and the stock, which had taken from three to four days to come in by rail, were returned to their farms in as many hours.

Republic Truck Remains at Alma

The Republic Motor Truck Co., of Alma, Mich., will remain permanently in Michigan, according to present indications. Interests of Cleveland, O., are strongly represented in the company and up to about four months ago it seemed that Republic would sooner or later take advantage of the undeniably splendid transportation facilities offered by Cleveland. A ten-year lease was secured, offices opened and a million-dollar factory planned; then labor troubles developed. The company's directors then decided to remain in Michigan.

Acme Motor Truck Obliged to Expand

The Acme Motor Truck Co., Cadillac, Mich., began the construction on October 3 of the first of the four units made necessary because of the ever-increasing volume of business coming to the Acme company. The first unit to be constructed will be 144 by 65 feet, and this will be followed by at least three other units until the present capacity of the plant is doubled. The body-building department also is rapidly expanding and for several months past orders have been ahead of production. Finding it impossible to keep up with sales under present production, the management decided some time ago to double the capacity of the present plant. The construction is of pressed brick, uniform in appearance to the other Acme construction.

The shock-absorbing wheel for automobiles is to be manufactured by a company recently incorporated in San Francisco. The inventor is Joseph P. Bem, of the same city. Stockholders in the Bem Shock Absorbing Wheel Co. are Bem, Frank J. Gardner and Harvey A. Sellers.

FRONT, SIDE AND REAR VIEWS OF ACE TRUCK. LATTER SHOWS ADVANTAGE OF HOTCHKISS DRIVE AND THREE-POINT SUSPENSION UNDER STRAIN.

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Acason THE OWNER FIRST TRUCKS

"A PRODUCT IS USUALLY WITHOUT HONOR IN ITS 'HOME TOWN'"

400 ACASON MOTOR TRUCKS OPERATE IN DETROIT

The Home of the Motor Wise

Serviced and Sold in Principal Cities

1 to 10 Ton Capacities

Some Territory is Still Open

Dan Gilkey, Pacific Coast Manager
Care of Acason Sales Co., 39 Van Ness Ave., San Francisco, Calif.

ACASON MOTOR TRUCK COMPANY

Exclusively Truck Builders
DETROIT, MICHIGAN

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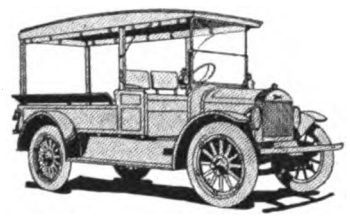
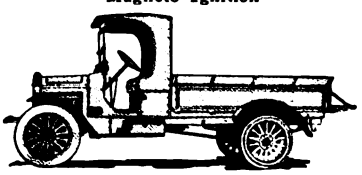
Stewart design cuts cost $200 to $300

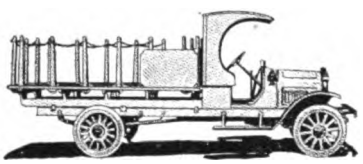
and increases endurance so that in 5 years none has worn out



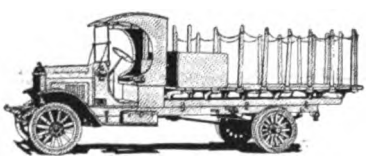
Model 11—¾-Ton Capacity Chassis—$1195
Electric Starter—Electric Lights—
Magneto Ignition



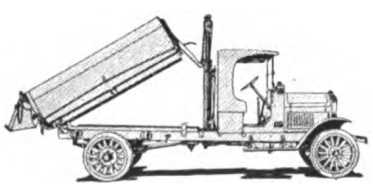
Model 8—1-Ton Capacity Chassis
$1650



Model 9—1½-Ton Capacity Chassis
$1975



Model 7—2-Ton Capacity Chassis
$2575



Model 10—3½-Ton Capacity Chassis
$3500
All Prices F. O. B. Buffalo

By eliminating hundreds of needless parts in the design of Stewart Trucks, first cost has been so reduced as to save the buyer from $200 to $300.

And with Stewart's simplified design, a more durable and serviceable truck is obtained. This is proved by the thousands in use in over 500 American cities, on hundreds of farms and in 27 foreign countries.

There is also an advantage in lower operation cost in Stewarts. More than 90 per cent. of the motor power reaches the rear wheels.

With fewer parts to wear out or break, there is less likelihood of road delays and repair charges. With less weight to move a big saving is effected in gasoline, oil and tires.

Stewart's simplified design makes lubrication almost automatic. There are fewer oil and grease cups.

Compare Stewart first cost, operating cost and endurance with any other make. You will find Stewarts **"quality trucks at quantity prices."**

Stewart
MOTOR TRUCKS

Stewart Motor Corporation, 412 E. Delevan Ave., Buffalo, N. Y., U. S. A.

Write for free booklet, "HOW TO CHOOSE A MOTOR TRUCK."

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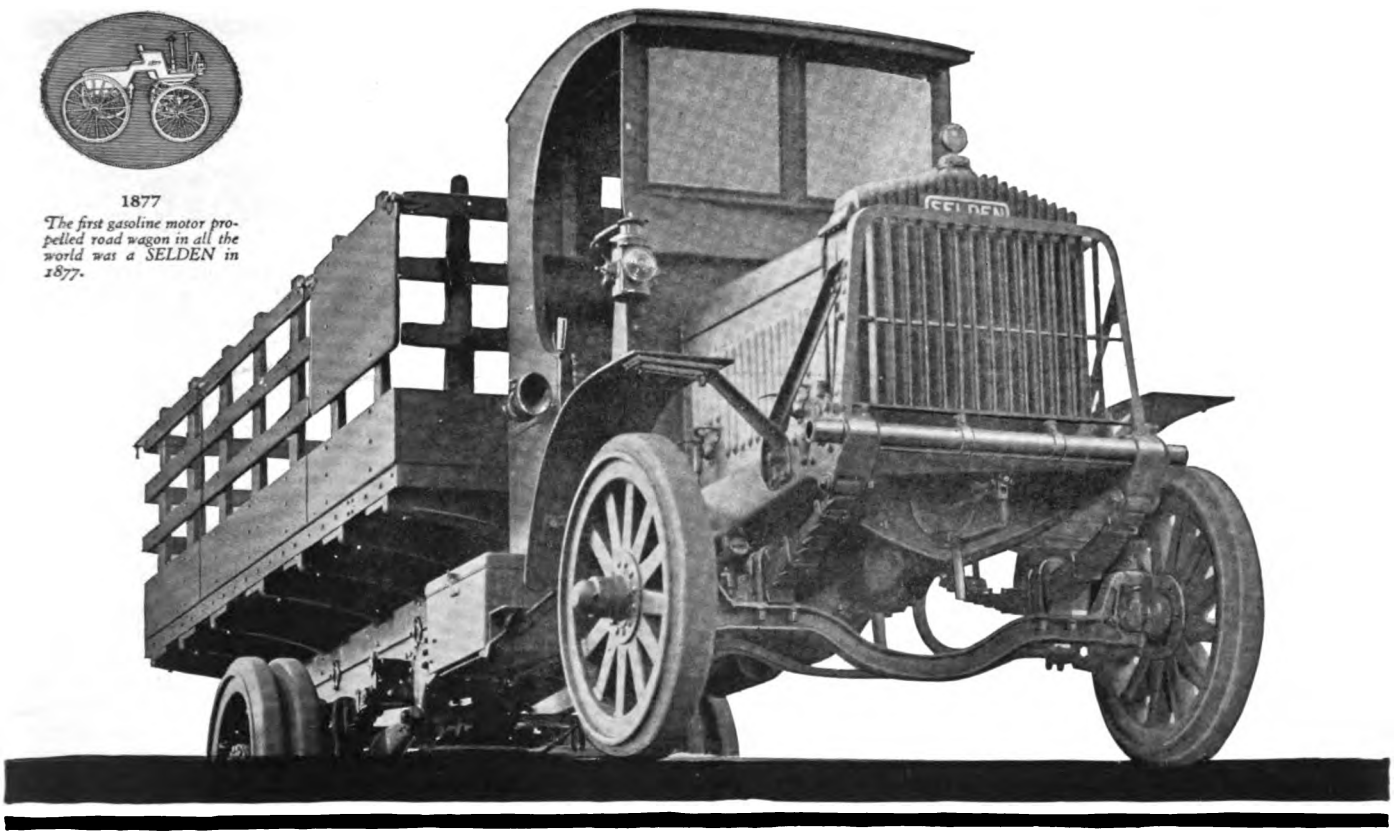
1877

The first gasoline motor propelled road wagon in all the world was a SELDEN in 1877.



The NEW 3½ Ton *("A" Series)* WORM Drive Selden Truck

The widespread, spontaneous acceptance of the 1½ Ton Model in the "A" Series of SELDEN TRUCKS, evidenced by hundreds of orders for this remarkable achievement in motor truck construction which we received from manufacturers, farmers, retail merchants, etc., in all sections of the country and the voluntary expressions of phenomenal performances of this model of mechanical perfection which come to us daily, prompted us to add a bigger, more powerful model to this same "A" Series.

We now offer for the consideration of truck operators MODEL 3½-A—a 3½ Ton WORM Drive Selden Truck of the highest quality construction that it is possible to build into a truck of this capacity for the price at which it is sold.

Increased manufacturing facilities enable us to build unusual value into the Selden "A" Series of motor trucks. These models are possessed of the same rugged construction, the same gigantic powers of endurance and are built on the same sound engineering principles which have earned an enviable reputation for SELDEN TRUCKS the world over.

Ask the Selden dealer in your locality, or write us, for Specifications of Model 3½-A—the heavy duty truck that meets the needs of to-day for HIGH QUALITY construction at MODERATE COST.

DEALERS

The addition of the "A" Series of Trucks to the Selden Line offers an unusual opportunity to you for sales at this time. This new series offers big truck value at an exceedingly moderate price. And the SELDEN "A" Series makes its appearance at an opportune time—at a time when truck buyers have been awaiting the appearance of just such models as the "A" Series. If SELDEN TRUCKS are not at present being distributed in your territory, this is a good time to apply for the Selden Line. The SELDEN "A" Trucks are sure to be big sellers. Enjoy the profits on their sale in your territory.

SELDEN TRUCK CORPORATION, Rochester, N.Y., U.S.A.

Selden Motor Trucks

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Motor Truck Express Lines

Should Be Systematically Linked up With Railways and Waterways to Effectually Combat Present High Prices

By E. A. WILLIAMS, JR., President Garford Motor Truck Co.

SYSTEMATIC organization of motor truck express lines already in operation and intelligent inauguration of new routes will afford at least a partial solution to the present high cost of living problem. Lack of adequate transportation is one of the chief reasons offered for the present crisis. In many cities, government and state officials are investigating food waste which, according to the commission men, may be traced directly to transportation delays.

Efficient organization of the motor truck lines in various communities with the idea of eliminating the possibility of idle trucks and light return loads will go far toward solving this transportation problem and reducing transportation costs.

Without a unity of purpose there is a capacity waste in every community. This naturally results in a loss of tonnage and increased costs. It has been said that 70 per cent of the motor trucks operating in the United States during 1918 traveled empty one way. From these figures it was estimated there was a capacity waste of 283,500,000 tons during the year.

With the establishment of highway transportation commissions in the various states and the organization of transportation bureaus in many of our cities this tonnage waste is being eliminated. In several cities the haulage concerns have formed associations and have established central offices from which the motor truck transportation activities of that particular community are directed. These associations are affiliating with associations in near-by cities in order to further decrease the possibility of idle trucks and light return loads and to increase the general efficiency of the service.

The motor truck actually has become a public utility in many localities. Entire communities are depending upon it as a means of supply. It has become equally as essential as the railroad and waterway.

To obtain maximum efficiency, the transportation units of the country—the railway, waterway and highway—should be linked up systematically. More highways should be built, the present highways improved and a greater number of motor express lines touching those sections not reached by either rail or water, should be created.

That such a system would have important bearing upon reducing the cost of living essentials is apparent. Available government figures show that in 1919 the cost of shipping by truck throughout the country was from 10 to 30 cents per ton-mile lower than the cost by horse-drawn vehicles. One can at least imagine what this will amount to in a year.

Speakers before a recent convention of retail and wholesale grocers in an Eastern city, voiced the opinion that their hope of reducing prices lay in the motor truck. Practically an entire session of the convention was devoted to this phase of the transportation problem, which they deemed highly responsible for the present high costs. One speaker, an officer of the grocers' organization, declared that the motor truck held the actual solution to the problem.

This recognition of the motor truck as a transportation factor, coming from men who analyze and understand conditions governing the markets, is noteworthy and should be taken as convincing proof of its worth.

Makes Real Money in Trucking Business

Elmer Roach, of Redlands, Cal., is young. If his wisdom holds out he will be comfortably well off before he is much older. He has made a good start with a 5-ton motor truck and a 6-ton trailer.

Roach went to the wheat country above Sacramento and saw an opportunity there for a big truck to buck four-mule teams on the haul of wheat from a big growing community fifty miles from a railroad. He bought the truck and trailer, hired a driver and they kept the truck going day and night hauling the golden grain.

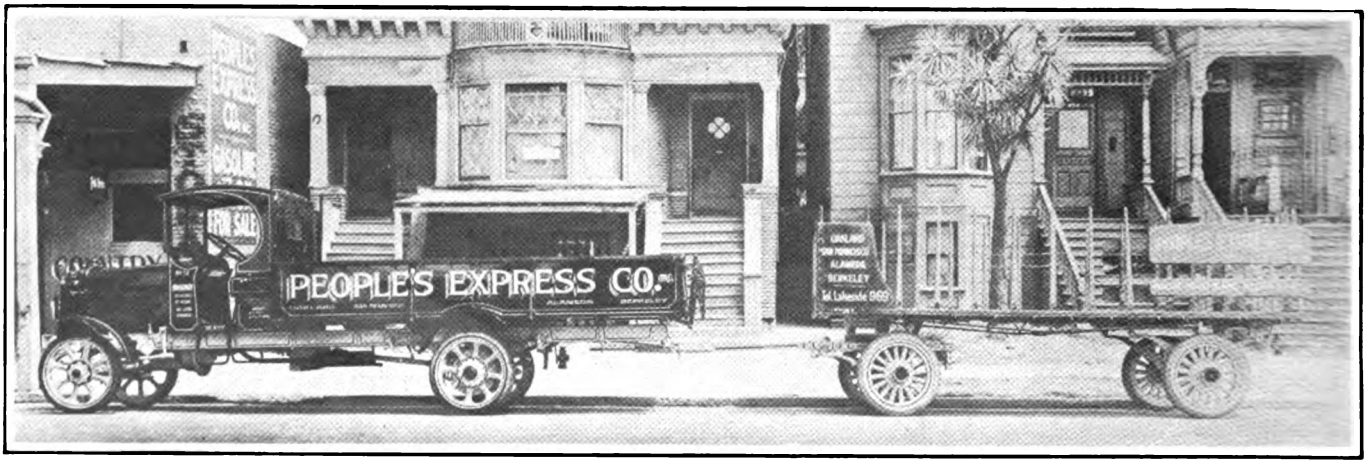
They got a little better than $5 a ton or about $58 full loaded and Roach allowed $75 a day for upkeep and repairs. The truck made two trips a day, or $115 a day, during the hauling season and was going seven days a week. Roach cleared enough to pay for the truck and trailer and give him good wages beside.

Panhard Truck Changes Name

The Panhard Motors Co., of Grand Rapids, Mich., is now again to be known as the Hamilton Motors Co., its former name, while the Panhard truck will be styled henceforth the Apex. The company disclaimed any desire to have its name confused with that of the Panhard & Levassor, of Paris, France.

Rapid Increase in Trailer Registrations

There was an increase of 170 per cent in trailers in one year in California from 353 on June 30, 1918, to 956 on June 30, this year. During the same period the total number of passenger automobiles and motor trucks increased 20 per cent, from 335,443 to 403,802.



HOW A MODERN EXPRESS COMPANY IN SAN FRANCISCO QUADRUPLED ITS EFFICIENCY.

The People's Express Co., Inc., is one of those all-pervading institutions which penetrate every section of the Bay Cities, with San Francisco as headquarters. Some years ago the sapient officials of the company began laying off their four-footed "motors" and substituting motor trucks. Now the business is practically monopolized by the latter, and with the addition of trailers the business has been quadrupled. In the accompanying illustration is shown one of the latest additions to its fleet—a Model 27 3½-to-4-ton Denby which seems to be able to get its load, plus the trailer's, anywhere in the hilly environs of the Golden Gate.

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Standard
DETROIT
USA

MOTOR TRUCKS

'All the Name Implies'

One of a fleet of STANDARDS engaged in inter-city haulage.

A Profitable Investment

1, 2, 3½, 5 Ton Capacity Worm—Drive

Motor trucks that require frequent layups for repairs are not a profitable investment. Every minute from the running time means decreased profits.

STANDARD Motor Trucks have that in-built sturdiness which assures constant service at all times. Their economy of operation and low upkeep cost have been proven by hundreds of progressive firms whose motor transportation systems are showing substantial profits. The greatest proof of their dependability is shown by the re-orders received from STANDARD users.

The STANDARD line offers a profitable connection of permanence to dealers of ability, integrity and aggressiveness.

STANDARD MOTOR TRUCK CO., DETROIT, MICH.

PACIFIC COAST DISTRIBUTORS

Palace Garage Company
Portland, Oregon

Continental Motor Co., Ltd.
Vancouver, B. C., Canada

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FLEXIBILITY + POWER

Embodied in the power plant of

"KALAMAZOO"

"The Hand-Made Truck"

Gives our distributors something to talk about and we stand back of our truck. Kalamazoo users are satisfied at all times.

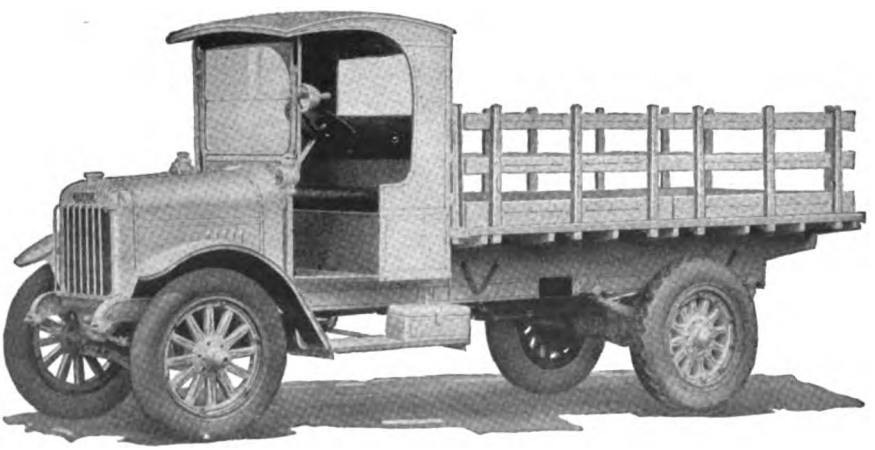
Three Models, 1½ ton, 2½ ton, 3½ ton

Now opening some new territory. Send for our catalogue and proposal to Distributors—it will interest you.

Kalamazoo Motors Corporation
(Motor Truck Division)
Kalamazoo, Michigan, U. S. A.

WOLVERINE

E. E. Gerlinger
Director of Sales and Advertising Pacific Coast
112 Market Street
SAN FRANCISCO, CAL.



Some Good Dealers Territory is still open. If interested, wire or write at once, as all territory will be covered very soon.

The Truck of Good Service

An up-to-date truck in every respect which will give 100% service to the owner. Fully equipped with electric starting and lighting system including a searchlight.

MANUFACTURED BY

AMERICAN COMMERCIAL CAR COMPANY
DETROIT, MICH.

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Out of the Crucible of War Needs Pours Approval of the

Wilson dependable MOTOR TRUCKS

EIGHTEEN months before the massed engineering brains of the automotive industry evolved the Class B Army motor truck, acknowledged to be the world's best truck; Wilson engineers designed and placed in production the 3½ and 5 ton Wilson.

After the Class B truck was manufactured it was found that in 22 distinct instances Wilson engineers and the War Department engineering force agreed in essentials, which demonstrates the pleasing fact that the Wilson design anticipated the trend of the best engineering practice, by a year and a half.

The points of similarity are briefly summarized below:

Motor, Axles** (worm drive), **Transmission, Radiator, Brakes, Load Distribution, Wheel Base, Frame, Clutch, Drive and Propeller Shafts, Springs, Spring Clips, Steering, Control, Hotchkiss Drive, Artillery Type Wheels, Dash, Fenders, Seat, Gasoline Feed, and other minor points.

Folder showing in detail these various features will be sent on request.

In addition to this compliment paid by the leading automotive engineers of America to Wilson design, by concurring in practically every major thought of Wilson engineers, the actual experience of Army officers with Wilson trucks makes interesting reading. We have prepared a little booklet showing what the Army actually thought of the Wilson trucks in the service of Uncle Sam and a copy is free for the asking.

YOU know the Wilson truck is a good one.

NOW is the time to find out if you can get the selling franchise in your territory.

Wire or write the factory today.

1½—2—3½ and 5 Ton Models—All Worm Drive

J. C. WILSON COMPANY, Detroit, U. S. A.

Western Sales Mgr., HARRY F. HEARD, 1806 W. Adams St., Los Angeles, Cal.

36th Year

COMMERCIAL VEHICLE MANUFACTURERS

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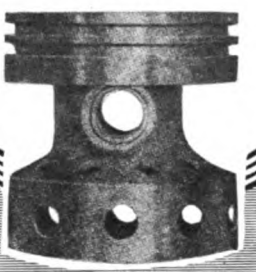
ZEPHYR
PISTONS
(PAT.)



DURABILITY POWER SPEED ECONOMY

ZEPHYR pistons hold many records of world interest since 1910 when they established world's record of 100 miles per hour for three consecutive hours.

ZEPHYR pistons were used in the Atlantic flight by Alcock-Brown, also in the R34 in its 6,000 mile flight from England to America and back.

The World's Best Piston Since 1910

The
Wridgway Company
Inc.
HALLSTEAD, PENNA.

Send for Booklet

DURABILITY POWER SPEED ECONOMY

U.S.PATENT
975301

GET THE TRUCK TO FIT YOUR BUSINESS.

It will more than pay every concern employing motor trucks to make doubly sure that its truck equipment fits local transportation problems and is fully equal to meet all transportation demands. When he has the right sized and kind of motor trucks, the owner is securing the very lowest cost per ton-mile for delivering or hauling his goods or materials. But when he has the wrong kind of truck equipment his cost of transporting goods or material is greater and the difference between this overcost and what he would pay if his equipment fitted his demands, represents an unnecessary loss.

—GEO. A. KISSEL.

Salt River Valley Motorizes Itself

The motor truck has proven almost indispensable in handling the cotton crop in the Salt River Valley of Arizona. Many of the 9000 acres devoted to long-staple Egyptian cotton are remote from gins. With the horse and wagon transportation of earlier days they would be very seriously handicapped.

Not so now. Farmers ten miles or more away from a gin roll in merrily with their cotton on trucks, while the owners of small patches pack the seed cotton into racks on trailers, which are hitched behind the family automobile and carried swiftly away to market.

A cargo of lint cotton may be worth as much as $700, so that the percentage of transportation cost is nominal. Progressive farmers value especially the time-saving of trucks. Once it was a full day's task to get to town and back, either with a load or on a business trip; now hardly a farmer in the Salt River Valley is more than one hour's distance from a railway station or market town.

The tractor is very generally displacing the horse in the Valley. Even the small farmers are using tractor power, finding it more economical to contract for tractor plowing than to maintain horses for occasional use.

City Largely Dependent on Motor Trucks

Perhaps no city in the country is so cumulatively dependent upon motor truck service as Los Angeles. Its map shows it to be one of the most curiously distorted cities in the world, as to its outlying districts. There are even districts which are not in the city, but which are surrounded by the city. Its "shoe-string" strip, connecting it with its harbor at San Pedro, nearly 20 miles from the city proper, is famous. Through this strip runs the present harbor boulevard, which is mostly excellent but is increasingly inadequate for freight and passenger traffic. One more road, for freight purposes, is practically a certainty, and a third road soon will be a necessity.

Take Sheridan, for Instance—

An interesting example of the increasing use of motor trucks in Oregon is the case of Sheridan, a small agricultural and sawmill town about 60 miles from Portland. A year ago Sheridan had two motor trucks. Now 20 trucks are owned in this town, not counting several others owned by farmers in the vicinity.

New Plant for Fruehauf Trailer

The Fruehauf Trailer Co., of Detroit, recently had ground broken for its new plant in that city, with dimensions of 100x300 feet and located on a site of five acres. It is planned to also increase the company's capital stock from $150,000 to $250,000. The company is now receiving orders for its trailers from all parts of the world—Norway, Dutch East Indies, Mexico, British Guiana and Cuba.

"Diamond T Accelerator"

"The Diamond T Accelerator" has appeared in its first number. The mere word "accelerator" gives an impression of life, "pep" and go, admits Editor Alexander Gray. The accelerator loses all its life, however, when the gasoline supply is exhausted, so that each dealer of the Diamond T Motor Car Co., of Chicago, Ill., is urged to furnish the new house organ with a "line o' gas" from time to time.

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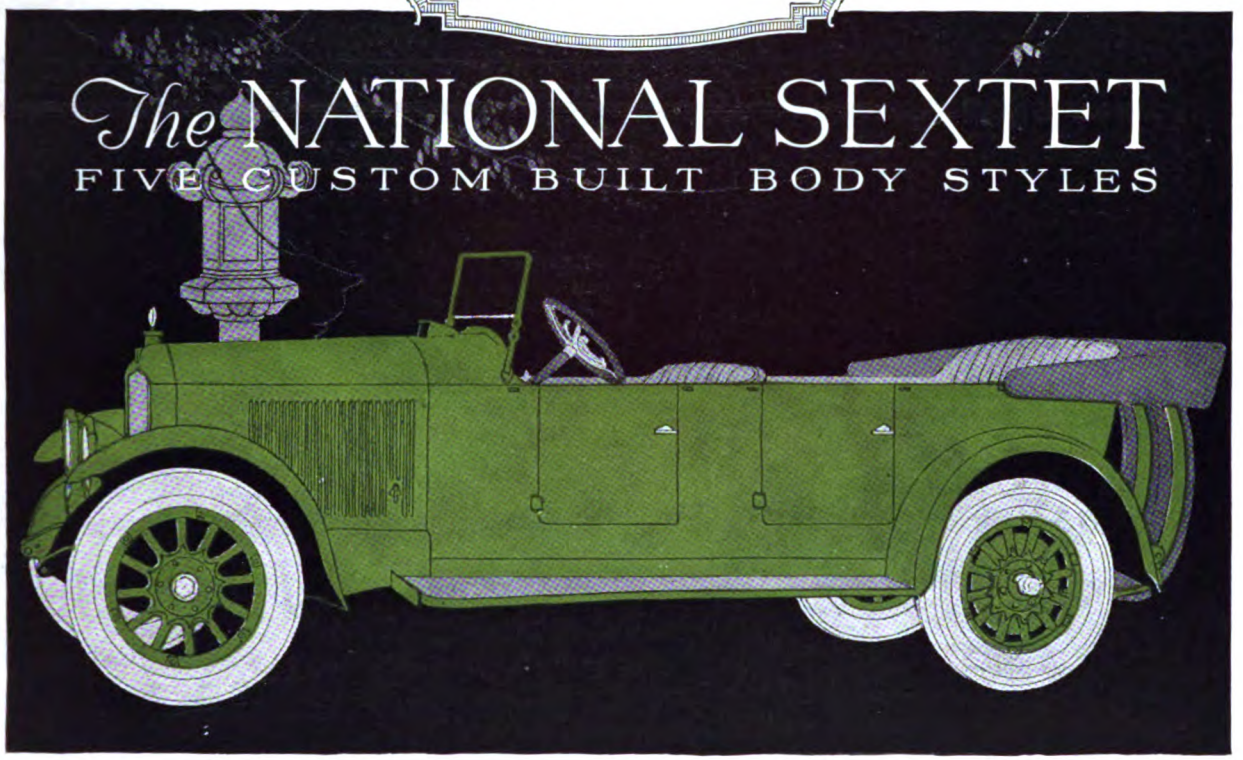
National

The NATIONAL SEXTET

FIVE CUSTOM BUILT BODY STYLES



IN the development of the National Sextet, the coach builder has played an important role. As a result, the Sextet is a most attractive car. Five custom body styles—a spacious seven-passenger touring car, a smart four-passenger phaeton, an athletic two-passenger roadster, a patrician four-passenger coupe, and a seven-passenger sedan of exceeding dignity—await the choice of the purchaser.

It has taken twenty years to produce the National Sextet motor. Naturally, we believe it to be the finest six-cylinder engine that has yet been produced. The Sextet is truly a National in performance and appearance.

Dealers will be interested to know that there is still good territory open, where Nationals may be sold with profit, pride and satisfaction. They will find the National Sextet recognized everywhere as a good car, living up to an enviable reputation. We shall be pleased to send catalogs and literature on request.

NATIONAL MOTOR CAR & VEHICLE CORPORATION, INDIANAPOLIS

Twentieth Successful Year

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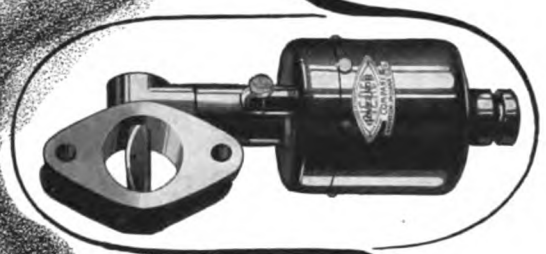
What the Balance Wheel is to the Watch

The Pierce Governor

Is to the Motor Truck



TRUCK efficiency is not measured by horse power. It is measured by the truck's capacity for uninterrupted and economical performance. Any factor responsible for delays, accidents, or excessive upkeep cost defeats the very purpose for which the truck was purchased.

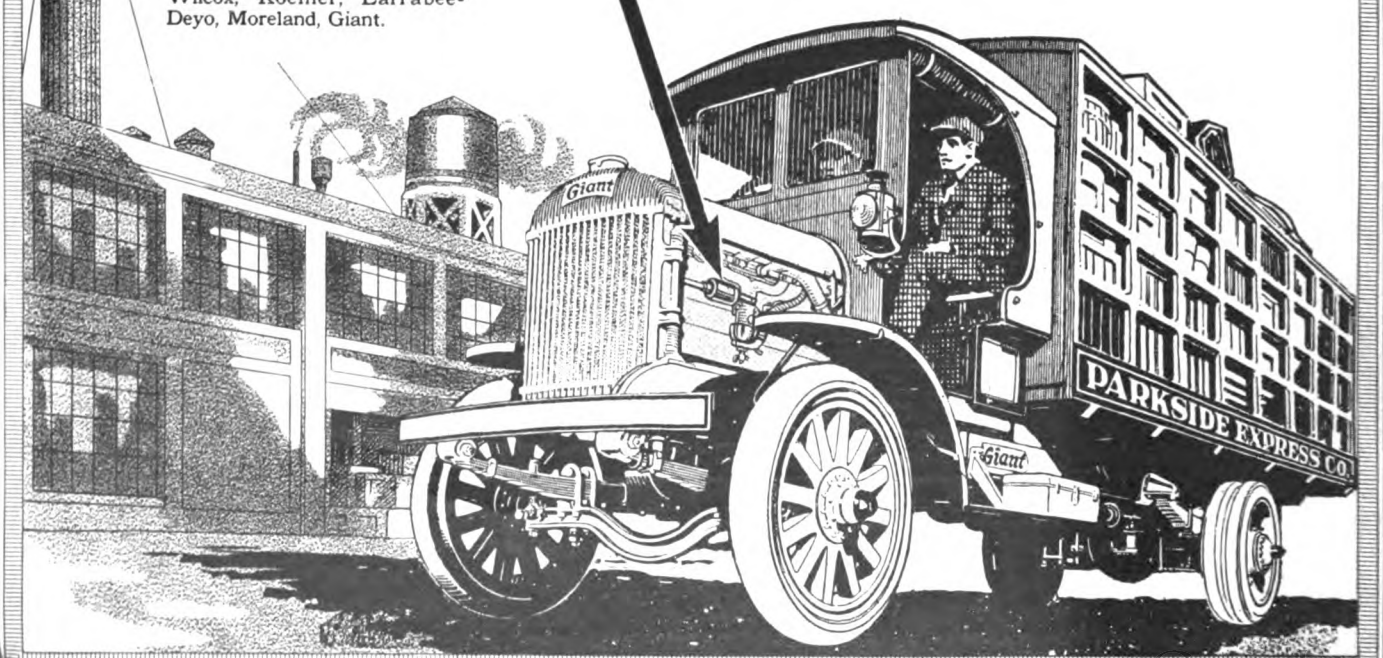
The Pierce Governor automatically provides a more perfect control of the truck speed, than can ever be attained by the most careful and conscientious driver. As a result, the life of the truck is increased several years and the upkeep cost reduced fully one-half. That's why Pierce Governors have been made standard equipment on ninety-one of the best makes of motor trucks.

Look for a Pierce Governor on the truck you buy. It's a guarantee of efficient and economical service.

You Can Judge Pierce Governors by the Manufacturers Who Use Them

Here are a few of the ninety-one makes of trucks on which Pierce Governors are standard equipment—Selden, Maccar, Gramm-Bernstein, Diamond T, Indiana, Oneida, Velie, Paige, Signal, Gary, Master, Armleder, Dart, United States, Grant, Patriot, Superior, Nelson-Lemoon, Stewart, Kissel, Wilson, Kleiber, Commerce, F. W. D., Atterbury, Wilcox, Koehler, Larrabee-Deyo, Moreland, Giant.

THE PIERCE GOVERNOR COMPANY
"WORLD'S LARGEST GOVERNOR BUILDERS"
ANDERSON - INDIANA



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MOLINE UNIVERSAL TRACTOR

Plowing under horse weeds 12 ft. high at Talmage, Nebr., with the Moline-Universal.

Count the Acres-Not the Bottoms

It isn't the number of bottoms that count—it's the number of acres plowed. You will find the 2-plow Moline-Universal Tractor equal in plowing capacity to the average 3-plow tractor. Observe the acres plowed at the following Official Plowing Tests held this year:

Test.	Ave. 3-Plow.	Moline-Universal.
Knox Co., Ill.	1.117	1.030
Salem, Wis.	.718	.863
Macomb, Ill.	.930	.870
Freeport, Ill.	1.054	1.080
Average	.955	.961

The ease of handling, quick turning ability, seat on the plow, and speed of the Moline-Universal Tractor make up for that third bottom. Combined with this is the ability of the Moline-Universal to do ALL field work, including CULTIVATING. Lighter field operations are done quickly and economically so that one man with a Moline-Universal Tractor is enabled to farm more land than he ever farmed before.

Its power was well demonstrated at the Official Ohio Tractor Demonstration Tests held this year. The Moline-Universal Tractor developed 18.72 drawbar H. P., more than doubled its rated 9 H. P., and establishing a record of 108% reserve power, the highest record made by the 28 tractors entered in this test. At the Ohio Belt Power Tests the Moline-Universal developed 28.7 belt H. P., which is more than 10 H. P. in excess of its rated 18 H. P. at the belt.

Such surplus power means steady power, power to carry on through the tough places as well as in the easy-going, and it assures long life. Abundant power for heavy work, speed for lighter work, its one-man operative feature and its ability to do every field operation that horses do, make the Moline-Universal Tractor the most logical, economical and completely satisfactory tractor on the market.

Ask your dealer for full information on the Moline-Universal Tractor TODAY.

MOLINE PLOW CO., MOLINE, ILL.

One Man Operates Both Tractor and Implement

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Is Fast or Slow Plowing Best?

Some Arguments as to Why Former is Preferred, Not Alone to Save Time But to Break up Soil

By C. H. SPRAGUE, Eng. Dept., Cleveland Tractor Co.

THE old saying that "it is hard to get out of the rut" seems to still hold true today in regard to plowing. There is much diversity of opinion as to the proper speed to plow, but the chief argument for slow plowing seems to be that "grandfather did it."

Regardless of what you attempt, it is a slow and difficult proposition to swing people from habits they have cultivated for years. That is just what is occurring now in regard to plowing; slowly the progressive farmers are coming out strongly in favor of faster plowing. This is emphasized by the great demand for the fast, light tractor.

First, let us consider what a good job of plowing is. One of the chief objects of plowing is to pulverize the soil. The plow may invert the furrow slice in a perfect manner, and completely bury all vegetation or trash, but if it fails to pulverize and leaves the soil in such a condition that the harrow cannot complete the work in the best and cheapest manner, it is not satisfactory. A good job of plowing occurs when the soil is thrown over in a well-pulverized and leveled condition so that it can be planted with the minimum amount of labor and preparation.

What occurs when you plow slowly; that is, with a speed of 2 to 2½ miles per hour? The soil is turned over slowly and does not tend to pulverize to any extent, but to maintain the same shape as when cut from the land. Hence the furrow slices are laid against each other and the plowed field takes on a ridged appearance. Think of the great amount of soil surface that is exposed to the drying action of the elements. This plowing does not reduce to a minimum the preparation of the soil before seeding. It is no different than the plowing done by horses; the ridged condition makes it necessary to bring the field back to its leveled state. Also trash and weeds can be seen poking their heads up between the furrow slices, ready to grow again. The jointer fails to wall the weeds in the corner of the furrow where they belong. Large clods are noticeable which, if not broken up soon after plowing, become dry and hard. Air pockets are numerous where the furrow slices are laid upon each other, and due to the large clods are difficult to eliminate.

FAST AND SLOW PLOWING.

The two pictures were taken in the same field and the soil was exactly the same in each case. The picture on the left shows the condition of the soil when plowed at a speed of a little over three miles an hour. In the picture on the right, the speed was approximately two miles an hour, and the difference in speed was absolutely the only difference in the plowing method. Which is the better plan?

Plowing at a speed of 3 to 3½ miles per hour is referred to as fast plowing. The soil is shoved up rapidly and tends to go up high on the turn of the mouldboard and then is thrown over well pulverized and in a level condition.

With soil in this shape it can be prepared for planting with very little preparation. The field is level and has a granulated covering of soil over it to prevent escape of moisture, so that in case the soil was not worked for some time after plowing, the harm done would be greatly minimized.

The trash is well covered; very seldom will one see weeds or vegetation showing where the soil has been turned rapidly, and is level. Where the trash is burned in one corner of the furrow much better connection is made with the subsoil by the remainder of the furrow slice.

Scouring is often greatly facilitated by increasing the speed. As every farmer knows, there are often soft spots in a field which have a tendency to clog up the plows, and to start the plow scouring it is necessary to speed up a team after getting out of one of these soft spots. The furrow wall will also appear more clean cut, and neater than the slower job.

Farmers agree that one of the greatest arguments for the tractor is its ability to get crops in quickly. Here is where fast plowing saves time for the farmer and fulfills his expectation of reducing the labor on crops.

No Trouble with Tractors, Trailers, Expected

In making efforts toward uniformity of motor truck legislation in all states, the New York state commissioner of highways recently made a statement pleasing to members of the Trailer Manufacturers' Association—that he does not expect any trouble, as to conservation of expensively built highways, from the length of trains composed of tractors and trailers, as he believes that grades of more than 5 per cent limit them at present to one or two trailers hauled by a single tractor.

Avery Tractor Placed in Mexico

Arturo Morales, of Guaymas, Sonora, Mexico, has taken the Avery line for his country, having made arrangements with W. W. Rainey, Los Angeles representative of the Avery company. He will handle a full line of tractors, threshers, cultivators and parts. Mr. Rainey has appointed the W. R. Smith Hardware Co., Lompoc, Cal., agent for that district.

Sales Increased Since Sand Wheels Applied

In the sandy lands north of Wineville, Cal., the efficiency of sand wheels, placed on the Samson Sieve-Grip tractor, was amply demonstrated, and the adoption of this feature is said to have considerably increased sales.

R. M. O'Neill, manager of the Southern California Tractor and Implement Dealers' Association, has been severely ill at home, under the care of a trained nurse.

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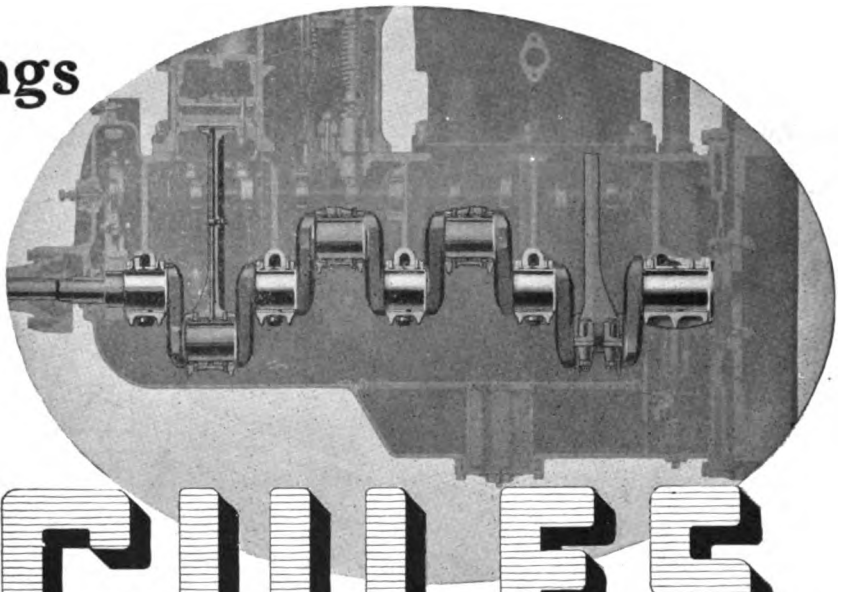
5 Main Bearings and Why



HERCULES

Because—

for Trucks and Tractors

The tremendous pressures of the exploding gases are absorbed by a main bearing equally spaced on each side of each crank pin and smoothly transformed into rotative effort.

Thru them extremely low bearing pressures are maintained —assuring almost endless life for the bearings.

5 Main bearings eliminate the crank arm deflection and excessive vibration due to this deflection—thus reducing internal losses and increasing mechanical efficiency.

5 Main bearings permit a crankshaft design of minimum weight, yet maintaining maximum strength and rigidity.

5 Main bearings on a 4 throw crankshaft provide the foundation for a well balanced heavy duty engine.

The fundamental principle of having a main bearing on each side of each crank pin was recognized by the eminent designers of the Liberty Aviation engine when they sought the most reliable construction.

We have facilities for increasing our present output of 100 Engines per day and would gladly serve interested truck and tractor manufacturers.

The Hercules Motor Mfg. Company
Canton, Ohio

Sales Offices: **Detroit Chicago Buffalo**
San Francisco London, England

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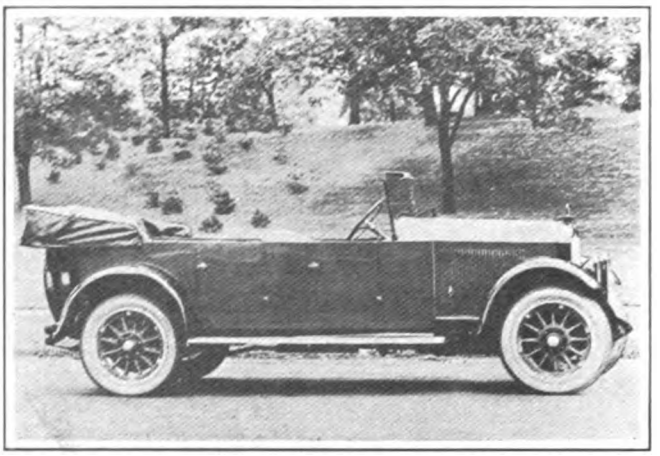
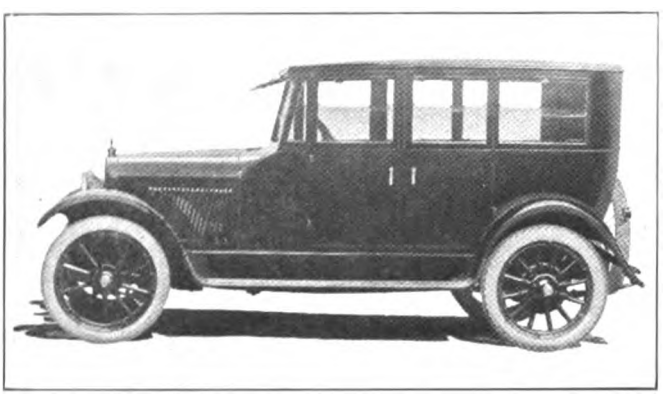


THE NEW NATIONAL SEXTET TOURING CAR.

With European grace and low-hung fleetness of line, the new National Sextet touring car appeals to the eye from every angle that it may be viewed. The wheelbase is 130 inches, giving ample room for seven passengers without crowding or cramping. Especially noteworthy is the engine, developing 71 horsepower at 2600 r.p.m. with a bore and stroke of only 3½x5¼ inches. The car is fitted with every imaginable convenience, including a cowl ventilator, Motometer, Hartford shock absorber, power tire pump and windshield cleaner.

New Columbia Six Roadster

One of the outstanding features of the new Columbia Roadster is standard equipment of five Disteel wheels. The extra wheel is carried at the rear of the car in a counter-sunk space in the deck, which gives the car unbroken lines from front to rear.



LEX-SEDAN MARKS INNOVATION IN COACH BUILDING.

In designing its latest closed-car creation, the Lex-Sedan, the Lexington Motor Co., Connersville, Ind., has reversed a practice long adhered to in the motor coach building industry. Instead of building the top to fit the body of the car, the company has built the body to conform to the top, giving the Lex-Sedan the appearance of being constructed as a single unit, a fact that lends it distinctiveness.

The Lex-Sedan is of the new four-door type with high sides. There are six side windows, square in shape and of equal size. The glass in all of these may be lowered or raised to conform to the weather or the will of the occupants. The coach work, furnishings and color combinations are described as being as distinctive as the car itself. Three colors are optional: blue, maroon and Brewster green, with Spanish leather and velour to match.

Among the important engineering features embodied in this car are the Moore multiple exhaust system, which contributes to greater economy and increased power; the one-finger emergency brake, the non-rattle frame, non metallic universal joints and oilless spring bushings.

Calculating the Speed of Your Engine

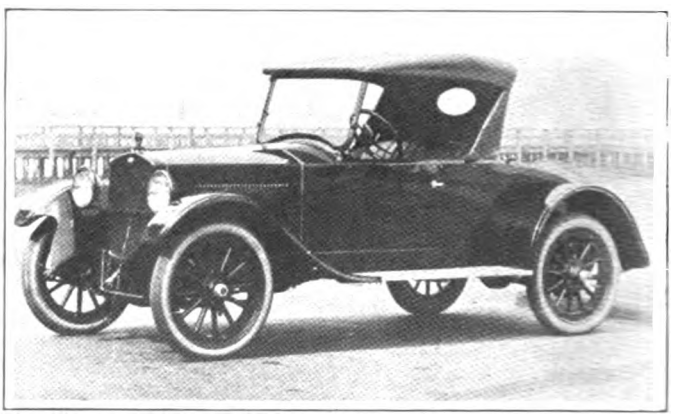
For calculating the speed of the engine when the gear ratio is known, a quick method has been suggested by an Oakland, Cal., man. Divide the tire diameter in inches by the gear ratio, divide the constant 336 by the quotient, multiply the quotient by the car's speed in miles per hour, and thus obtain the speed of the engine. Example: A tire, 32 inches; gear ratio, 4 to 1; speed of car, 45 miles per hour—32 divided by 4 equals 8; 336 (the constant) divided by 8 equals 42; 42 multiplied by 45 equals 1,890 revolutions per minute. The constant 336 would do for any gear ratio, tire size or car speed.

How Closed Cars Have Increased in Popularity

Striking and irrefutable evidence of the sensationally rapid rise in popularity of closed cars, as compared with open models, is contained in an analysis of the production of the National Motor Car & Vehicle Corp., covering the last 16 years.

The proportion of National closed cars to total output is shown to have increased from 1.5 per cent in 1904, the year the first National closed model was built, to an average of 20 per cent for the last two years, with promise of a still greater increase in the future.

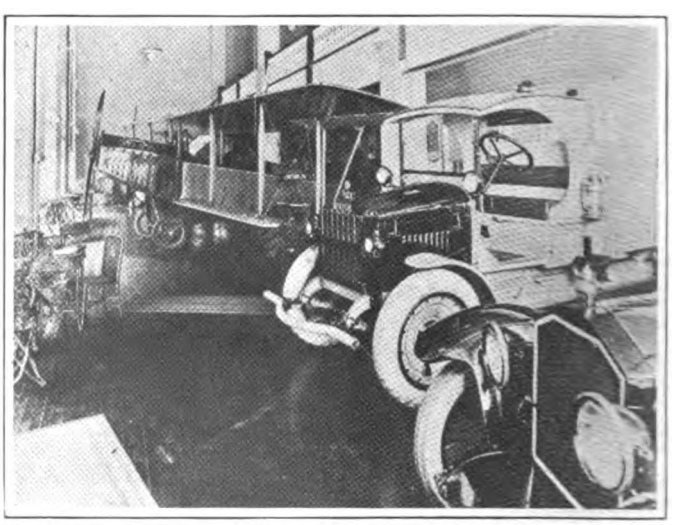
Next year the National company will build more closed cars than during the entire first 12 years of its closed car manufacture, demonstrating conclusively that the vogue of the closed type is still of comparatively recent origin, with a future that is pregnant with great possibilities.



THE NEW GRANT LIGHT SIX ROADSTER.

Everything about the new Grant Light Six Roadster suggests artistic harmony of lines. Like the touring car, this roadster has long, low, straight lines and the new style radiator gives the car a distinctive appearance. This model is built upon the same chassis as the touring car and has the same powerful, flexible motor. The Roadster seats three persons comfortably, with plenty of leg-room. Cushions are deep and of real leather, hand-buffed. The exclusive Grant spring suspension provides the ideal Hotchkiss drive, springs riding nearly flat when car is loaded. These springs have self-oiling bushings, permanently lubricated. Equipment for the Roadster includes top of "Neverleek" fabric with door-opening curtains, Boyce motometer and Kellogg power tire pump.

Gray & Davis, Inc., of Boston, Mass., manufacturers of automobile lamps, starters and dynamos, have recently issued a new descriptive catalog of their products. The catalog sets forth the new starting, lighting and ignition systems and lamps manufactured by the company and will be sent, it is announced, to any person who makes a request of the advertising department.



WHAT PACIFIC COAST FIRM WILL BE FIRST TO EMULATE THIS BALTIMORE DEALER IN THINGS AUTOMOTIVE?

The Central Automobile Co., of Baltimore, Md., is the pioneer automotive concern to handle airplanes, trucks, passenger cars and tractors under one roof. They started out with Stearns automobiles, then they took on the Acason motor truck, following which they added a line of tractors, and later completed their line by installing a line of airplanes.

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REO

A Policy That Pays

ISN'T IT REMARKABLE how that Reo "Speed Wagon" continues to hold its lead in popularity among buyers?

IT JUST GOES TO PROVE that the maker who plans for the "long run" may also win out in the sprint.

REO EXPERIENCE and Reo foresight developed this type of commercial vehicle in the first place.

PNEUMATIC TIRES, electric starter and electric lights were first incorporated in a motor truck when this Reo "Speed Wagon" was designed.

THAT LEAD THEN GAINED has been maintained by Reo quality.

ONLY PROBLEM Reo Distributors have—or ever have had—is to obtain enough Reos to supply the damand.

Reo Motor Car Company
Lansing, Michigan

"The Gold Standard of Values"

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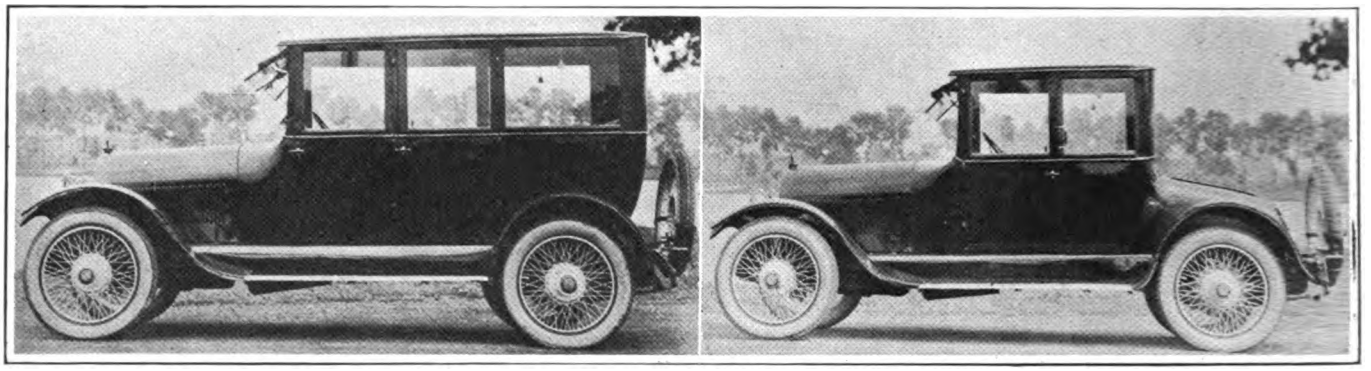


STEPHENS SALIENT SIX SEDAN AND COUPE WITH WIRE WHEELS AND FISK CORDS AS STANDARD EQUIPMENT.

Stephens Six Enclosed Cars

Beauty, Comfort and Weather-Tightness Coupled With Light Weight Mark These Latest 1920 Models

THE Stephens Model 85 Sedan and Model 83 Coupe complete the full line of cars offered by the Stephens Motor Works for 1920. Both the sedan and the coupe possess the same individuality in design that has so distinguished the open models. They are built upon the standard Stephens chassis of 122-inch wheelbase, which contains the famous Stephens perfected overhead valve engine. This chassis gives unusual road performance to the enclosed models and sweeps aside many of the limitations that have retarded the popularity of the enclosed car for all manner of service.

Flush, tight-fitting doors, square-finished and fitted with neat exterior door handles, add to the beauty of the exterior of the five-passenger sedan. The beautiful French gray color scheme is carried out in every detail of the interior decoration, upholstery and fitting. The upholstery is silk mohair, French plaited, stuffed to fullness with hair, overlaid with pleats of padded cotton and mounted upon Marshall springs. The rear and rear quarter windows are fitted with warm, harmonizing colored silk, automatic roller curtains, to add to the beauty of the color tone. For convenience as well as trimness, velvet pockets with rubber-gathered tops are neatly concealed underneath the mohair covered flaps of the doors. The lighting of the interior is by a round dome and oval corner lights, with art-etched and frosted glass globes. In the sedan a convenient switch is located on the back of the front seat, for controlling the interior lighting.

For winter comfort both the sedan and coupe are equipped with perfection heaters, with temperature regulators. In fair weather the windows in the doors may be completely dropped or lowered to any degree desired, by window regulators of the perfected type. The rear quarter windows are raised or lowered as desired by a broad lace sash lift, which holds the window at any position by means of an eccentric fastener.

The rigid, weather-tight, light-weight construction of the Stephens enclosed bodies is a distinct achievement in body designing and building. The new rigid construction affords perfect quietness, whether traveling on the street or road at any speed.

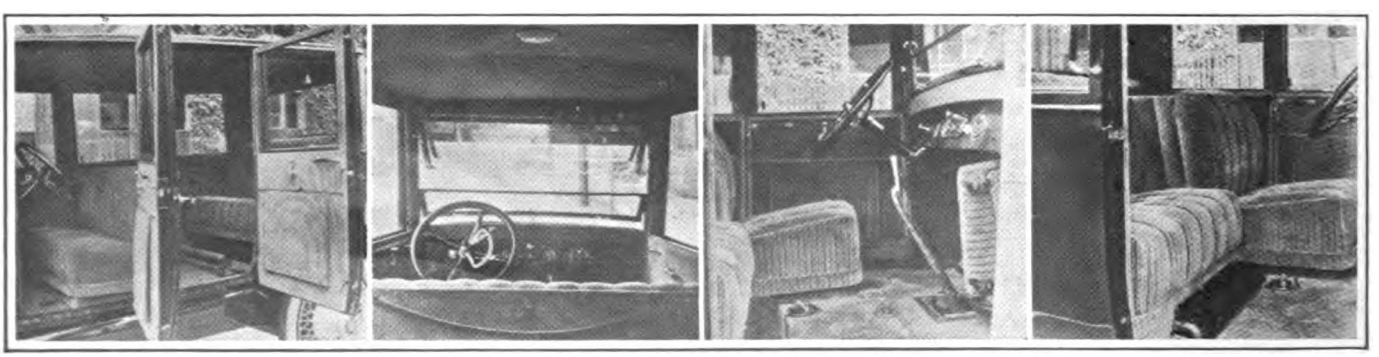
An especial feature of the Stephens enclosed models is the top which will bear the weight of more than eight men without sag or bend. The material used is the Haskelite, waterproof, mouldable, plywood which is light in weight and impervious to deterioration when exposed to elements.

The light weight of the Stephens enclosed models is also a feature, considering the size and substantial construction of the bodies and the liberal standard equipment. The sedan weighs 3650 pounds, and the coupe 3450 pounds fully equipped. This standard equipment includes wire wheels and 33x4½ Fisk Cord tires, extra wheel and tire.

In outward appearance the Stephens Coupe is of the palanquin type, the body proper being located at about the center of the wheelbase. The weight of the coupe is balanced almost to a pound upon the four wheels, increasing the true running qualities of the car. The coupe is decorated and finished exactly like the sedan and carries the same equipment. It can carry four passengers.

An exclusive feature of the coupe is the patented Stephens revolving and folding extra seat, that folds neatly away under the cowl and does not interfere with the occupants of the staggered seats. The extra seat is deeply upholstered and can be faced either front or back or to either side. There is a convenient carrying compartment behind the driver's seat, which is set forward to the steering wheel. There is also a large dust-proof baggage compartment in the rear of the body, which has a convenient top deck entrance.

Lubrication is one of the most vital problems with an automobile engine and the man who discovers correct lubrication for his own particular make of car has made a great step toward securing long life, economy and efficiency in its operation. "Lubrication of the Motor Car Chassis" is one of the latest of the excellent charts published by the Norman W. Henley Co., of New York. It is a plan view of a typical six-cylinder chassis, outlining all important bearing points requiring lubrication. Price 35 cents.



SOME STEPHENS SALIENT SIX CLOSED CAR REFINEMENTS—(Left to right) Interior of Sedan showing perfect appointments. View of Sedan from tonneau. Interior of Coupe showing revolving seat partly folded away under cowl. Another view of Coupe interior showing Perfection heater.

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Well-Known Drivers Enter Ascot 50-Mile

Nine or more well known names in automobile racing are considered possibilities in the fifty-mile race to be staged at Ascot Park, Los Angeles, Cal., on Thanksgiving Day and forming part of a combination automobile and horse racing holiday. The racing car with engine of 300 cubic inches piston displacement will rule at Ascot, although the specification of 183 cubic inches for Indianapolis in 1920 will probably be the standard next year.

Joseph Boyer, recent winner at Cincinnati, will enter his two Frontenac cars at Ascot, one driven by his Cincinnati team mate, Goodson, the other by Roscoe Sarles, who during the past year has become very well known in Coast automobile racing. Eddie Hearne, second at Santa Monica, Ascot and Indianapolis last spring and more recently a finisher up in front at Fresno and Hanford, is another entrant.

Eddie O'Donnell will enter an eight-cylinder Duesenberg, a duplicate of the one driven by Tommy Milton, who is prevented from entering at Ascot due to injuries received recently at Uniontown. Returning to the Coast where he was a favorite in 1914-'15, Art Klein will race at the Phoenix, Ariz., state fair races, then come to Ascot. His "string" is made up of a Mercedes, Peugeot and Detroit Special.

Eddie Pullen is preparing a car to enter. Still possibilities are Cliff Durant, winner at Santa Monica last spring; Reeves Dutton, driving the Stutz that made Earl Cooper famous; and Joe Thomas, who may ship an eight cylinder Duesenberg and a Delage from New York.

The purse offered by the Ascot management, headed by George Bentel, amounts to $5,000. This is said to be the most generous one ever offered for a race of this distance.

Ascot Park Speedway, it is reported, will not be demolished sooner than within two years, although it is included in the large tract in the southern section of Los Angeles recently bought by the Goodyear Tire & Rubber Co. for its Pacific Coast plant. The racing management's lease still stands, the income from the land as a race track to the new owners is greater than it would be as vacant land; therefore Ascot seems destined to make more racing history.

War Department Using Automotive Advisors

As the result of a suggestion by Gen. C. C. Williams, chief of the ordnance department in the War Department, there is to be a meeting every two months at which members of the Society of Automotive Engineers will advise on details of construction of all motor equipment, especially tanks, tractors and caterpillar gun mounts. At the first meeting, recently held in Washington, the following were present: H. W. Alden, Timken-Detroit Axle Co., chairman; W. G. Wall, National Motor Car and Vehicle Corporation; J. G. Vincent, Packard Motor Car Company; Dent Parrett, Parrett Tractor Company; C. F. Kettering, Delco Company; George M. Dunham, former president of the S.A.E. and a prominent consulting engineer; Charles M. Manley, president of the S.A.E., and Coker F. Clarkson, manager of the S.A.E.

Members of the technical staff of the ordnance department who met with the civilian engineers, in addition to Gen. C. C. Williams, chief of ordnance, were as follows: Col. C. L. H. Ruggles, Col. L. B. Moody and Col. J. B. Dilliard.

A bigger business at a better profit

THERE is money for you in tire covers. This fact has been proved by the experience of thousands of dealers and garages all over the country. But never before have you had such an unusual opportunity to increase your profits in this line.

In the past, each different size tire required a particular size of cover. You were forced to carry a big stock to meet every demand.

The Economy Tire Cover is the first standardized tire cover. It is the only cover that can be profitably stocked by the dealer. The Economy is made in standardized sizes adjustable to any size or tread of tire—fits every style of rim or carrier—and both wood or wire wheels. Thus the Economy Tire Cover eliminates the necessity of your carrying a large stock of sizes and styles.

You get quicker action on your money—a more frequent turn-over—a bigger business at a better profit.

Ask your jobber for descriptive folder of the Economy Cover—or write us direct giving jobber's name.

Economy Tire Cover Co.

1319 Margo Street :: Los Angeles, Cal.

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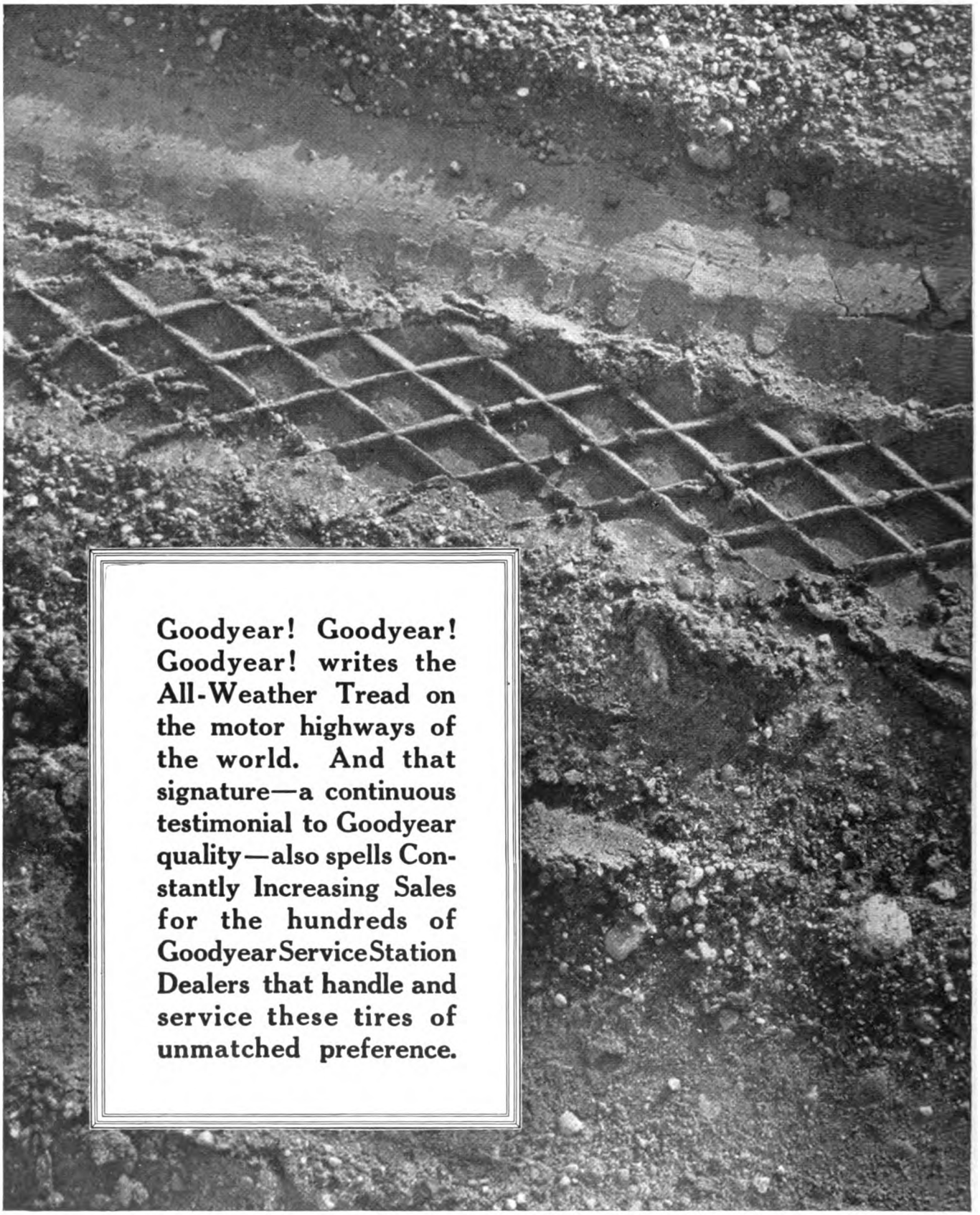

GOODYEAR
AKRON

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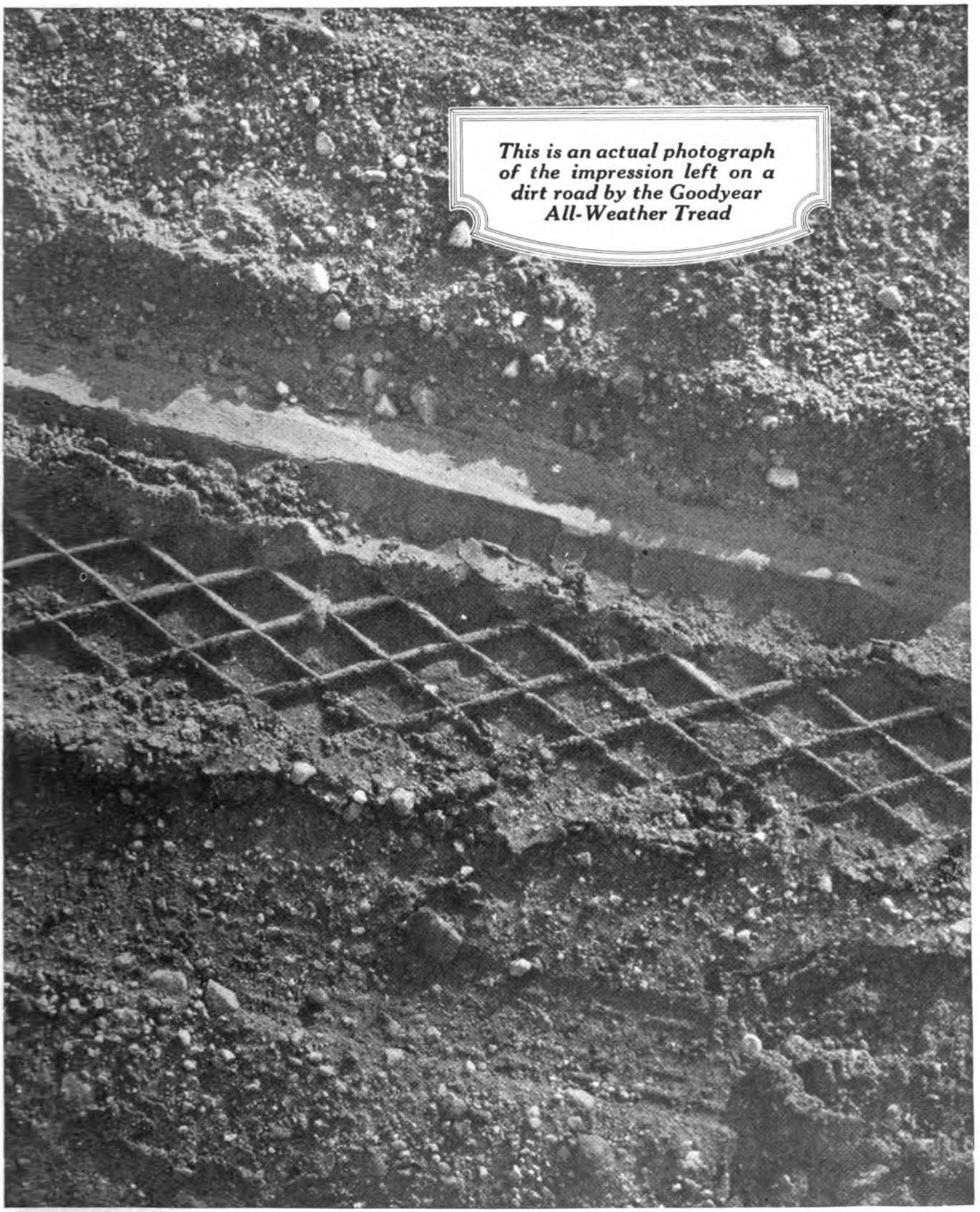

CORD TIRES

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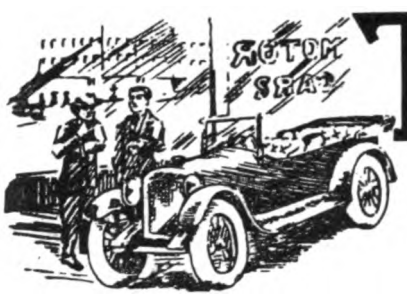

Trade Briefs and Factory Gossip

News Wafted From Detroit.

Just why, he does not say; nor does he consent to have his name mentioned, but a certain well-known automobile manufacturer declares that, whether the steel situation eases or not, curtailed automobile production may be expected after January 1.

Meanwhile, and in apparent contradiction, preparations for increasing producing facilities go on. The recent formation of the Willys-Overland Corporation in New York, to continue making articles now being made by the compoment concerns and to add an automobile, is an example; while several other of the largest manufacturers are extending their plants remarkably. More than 1000 workmen are working in day and night shifts on the mammoth office and service building of General Motors, which will occupy a full block in Detroit. Feverish work is being done on the new Cadillac plant. And so on.

Toledo will or will not benefit by Mr. Willys' new plans, depending on whether it can house his workmen.

The E. A. Nelson Motor Car Co. and the Gray Motor Co., Detroit, have consolidated. The former was organized in 1917, the latter in 1905. The Nelson name and the Nelson product will be continued. That company increased its capital stock from $500,000 to $700,000, and the new corporation, it is said, will have a $3,000,000 capitalization. The Gray company officers will retire and the Nelson personnel will manage, being: E. A. Nelson, president; C. H. Dunlap, vice-president; F. C. Harvey, treasurer; G. O. Aldrich, secretary.

The first experimental automobile of the new Wills-Lee Company, located in Marysville, Mich., is reported to have been tried out. Many new features are predicted. It is visioned as a six or eight-cylinder, to sell at about $1800.

Enter a competitor of Ford—the Oshin Motor Sales Co., Escanaba, Mich., which Upper Peninsula concern will shortly market a two-passenger car to weigh about 800 pounds, to retail at $295. It will not have a closed body.

The Oakland Motor Co., Pontiac, Mich., expects to have a 1920 output of 100,000. About $2,000,000 will be spent on expansions, including a three-story assembling plant, paralleling the present factory, and the engine unit will be enlarged so as to produce 500 motors daily.

On November 5 there will be sub-tted at a New York meeting of Saxon stockholders a plan believed to be more favorable than any so far thought possible for settling the company's affairs. It provides for an issue of $2,000,000 of preferred 8 per cent stock, cumulative, the unpaid balance of creditors' claims to be settled by acceptance of preferred stock at par; stockholders to receive between 70 and 80 per cent cash, and stock for the balance. In place of 60,000 shares $100 par value stock now outstanding, it is proposed to issue 200,000 shares of no par value, in exchange for present stock, share for share; 120,000 shares of new stock to be underwritten by a Chicago syndicate and present stockholders to be offered these shares, two for one, at about $15 per share; untaken stock to be offered the public; the remaining 20,000 shares to remain in the treasury. Sale of the new stock would produce $2,500,000 to $3,000,000 working capital—more than it ever had; and there would be no indebtedness. A new automobile is said to have been designed, to be marketed when reorganization is completed. The sales organization has remained intact through all the difficulties.

Profit-sharing by Packard employes is made possible by 1000 shares of 7 per cent preferred having been offered to them on monthly installments, on terms to net 8 per cent. The company will contribute $10 per share, so that employes will buy $100 shares at $90 Interest at 5 per cent annually will be charged on monthly unpaid balances, but the quarterly dividends of $1.75 per share will go to the purchasers. Not more than 10 shares will be sold any employe.

ALBERT H. ZIMMERMAN
Vice-President, Treasurer and General Manager Supreme Motors Co., Warren, O.

The Detroit plant of the Fisher body is said to be the largest of its kind in the world. The next largest of the kind is beginning at once on a 20-acre site in Cleveland—The Fisher Body Ohio Co., capitalization $10,000,000; F. J. Fisher, president; annual production capacity to be $30,000,000. It is understood to have a contract for producing many bodies for the new Cleveland light six.

There is to be completed by January 1, in Detroit, another six-story plant of concrete and steel, of 100,000 square feet floor area and to cost $250,000, for the C. R. Wilson Body Co. A new six-story press department is practically completed. The new construction work to meet the expansion program totals about $1,000,000. An addition to the Bay City plant, 100x200 feet, has been begun. It will contain twenty more dry kilns, giving the company a dry kiln capacity of more than 3,000,000 feet per month. Work on the new power house and on the site of the building destroyed by fire in February a large plant is rising.

Persistent rumors of a Dodge branch plant at Mt. Clemens are not confirmed, and officials will not discuss the reported purchase of 600 acres on Selfridge field near Mt. Clemens.

The Remy Electric sales department and laboratories, moved from Anderson, Ind., to Detroit five years ago, are being moved back.

* * *

Zimmerman With Supreme Motors.

Albert H. Zimmerman, who for fourteen years has directed the destinies of the Continental Motor Co., Detroit, has severed his connection with that corporation and has associated himself with the new $2,000,000 Supreme Motors Co., Warren, O., in the capacity of vice-president, treasurer and general manager. President A. W. Green of Supreme Motors also announces that Mr. Zimmerman has purchased a large interest in the new company. The plant is equipped to the last word with modern machinery and, under Mr. Zimmerman's management, will have a capacity of 300 motors a day to serve the passenger car and truck trade.

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Wayne
Honest Measure Pumps
are the best outside salesmen you can use.

A Wonderful Gasoline Business

Selling 2,161,020 Gallons of Gasoline in Three Years.

This is the remarkable record of Martel Brothers of Burlingame, California.

All of this business was handled through a five gallon, Cut 276, Wayne Honest Measure Pump, just like the one shown here.

During this time not a penny was spent for repairs, not a single adjustment was made by the sealer of weights and measure.

Wayne
Honest Measure Pumps

always give

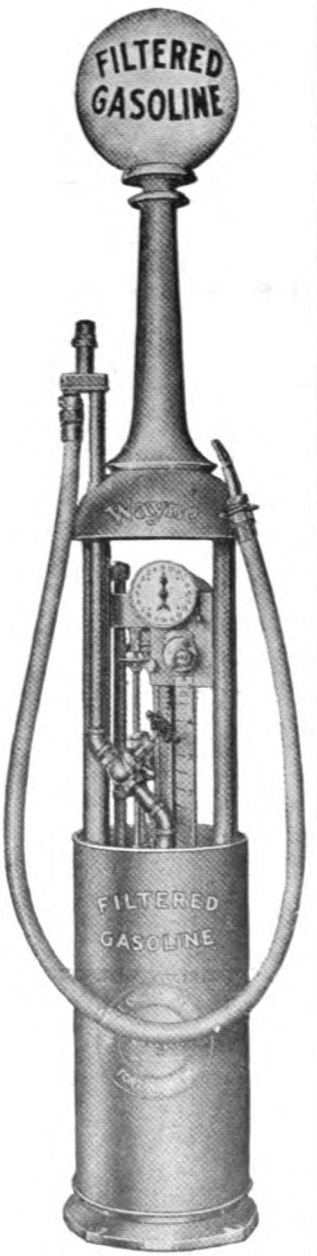
The Maximum in Speed and Service.
The Minimum in Maintenance Cost.

EXCLUSIVE FEATURES

Cylindrical sliding counterbalanced housing. Six inch, twenty gallon discharge dial. One million gallon, gear driven meter. Computing scale.

SPECIAL CONSTRUCTION.

Hand ground solid brass valves. Double foot valves. Galvanized fill and suction lines. Finest selected materials fashioned by picked mechanics. Two year written guarantee.



Write and ask us about the details. All information given without any obligation. Complete catalogue on request.

SAN FRANCISCO BRANCH located at 631 **HOWARD STREET.**
LOS ANGELES BRANCH located at 830 **SO. LOS ANGELES STREET.**

Wayne Oil Tank and Pump Company

569 Canal Street, :: :: Fort Wayne, Indiana

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HI-TEST
LUBRICANT

ADHESIVE *Prevents friction*

HAS NO ODOR

HEAT RESISTING *Cools metal parts*

TAKES DRAG OFF THE MOTOR
FORMS NO SEDIMENT

QUIETS YOUR GEARS

MANUFACTURED BY
United Products & Sales Corporation
512 Second Street :: San Francisco, Calif.

SERVICE STATION
Essex Garage
819 Ellis Street :: San Francisco, Calif.

Gloetzner President Covert Gear Co.

The majority holdings in the stock of the Covert Gear Co., Inc., formerly owned by P. A. Clum, Rochester, N. Y., capitalist, have been purchased by Alvin A. Gloetzner, former vice-president. Mr. Clum's retirement from the presidency has been followed by Mr. Gloetzner's promotion to that post. He also assumes the general management of the company. Mr. Gloetzner will make his headquarters at the factory, but the company will continue its sales and engineering offices in Detroit for the benefit of its clients and to aid in taking care of its rapidly expanding business.

* * *

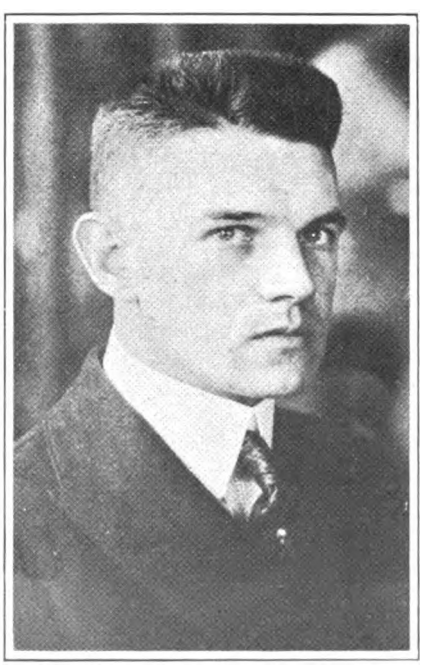
1920 Grant Car a New Type.

The Grant Motor Car Corp., of Cleveland, O., will produce 20,000 Grant Light Sixes next year, representing a doubling of present output. The Light Six is a new car, with 118-inch wheelbase, two inches longer than previous models. Retaining the same general characteristics, the engine is larger, bore 3⅛ inches and stroke 4½, the bore being one-eighth inch greater than formerly. The car's exterior is completely changed by a new type of radiator design and a bevel-edge type of body, resulting in a lower built car of smart appearance.

* * *

Cashin to Manage Acason Advertising.

J. G. Cashin has joined the Acason Motor Truck Co., Detroit, as advertising manager. He resigned a similar position with the Standard Motor Truck Co. to join Acason. Donald F. Whittaker, who has held the joint title of advertising manager and assistant sales manager, will relinquish the duties of the advertising department to Mr. Cashin and will devote practically all of his time to his duties as assistant to Vice-President and Director of Sales H. A. Conlon.



J. G. CASHIN
Advertising Manager Acason Motor Truck Co., Detroit.

Miller Buys Building for Branch.

Charles E. Miller, who is credited with operating the largest automobile supply house in America, with the parent house at 97-103 Reade street, New York City, has a large branch establishment in Brooklyn. Some months ago his landlord was forced out, and Mr. Miller was compelled to look for another suitably located building sufficiently large to house his big Brooklyn business. Nothing doing! He searched the city thoroughly, and was finally compelled to buy the property at 1413 Bedford avenue. Mr. Miller has built up a nice export business, that with India alone aggregating $50,000 yearly. A couple of months ago an $8,000 shipment to that market went down in the ship that was carrying it, and the other day he received a cable duplicating the order.

* * *

Want to Sell Gardner Light Four.

There has been a veritable scramble among automobile distributors for territorial rights on the Gardner Light Four, the manufacture of which will not be started until January 1 next, when the touring and roadster styles will be turned out, to be followed in the spring by sedans and coupes. It is this unusual interest in the new $1125 car that has absorbed the full output of the company until late spring. The Gardner company is a St. Louis institution, having built up a nation-wide reputation and amassed a big fortune manufacturing buggies.

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"Here Is the Piston Ring I Recommend"

The garage man says this with an accent of pride when he holds out a Gill Piston Ring towards the customer. He knows the Gill Ring only has to be shown to convince that it is the "perfect one piece piston ring." There is no argument necessary, one look at the double step interlocking joint and anyone with even the slightest mechanical knowledge can see that it is head and shoulders above any other ring on the market.

Just think for a moment. The Gill Piston Ring allows an expansion of from $1/8$" to $3/16$" without any loss of compression and at the same time has all the advantages of a one piece ring. Made from single piece castings of the finest gray iron and machined to absolute accuracy. The easiest ring on the market to install, the easiest ring on the market to sell.

Send for the new Gill Piston Ring Size Directory, complete, convenient, and full of just the information you need. It is free to the trade.

Dealers—Ask your jobbers about them
Jobbers—Write to us for information

The Gill Manufacturing Company
351 West 59th Street, Chicago, Illinois

Sole Foreign Agents:
AUTOMOTIVE PRODUCTS CORPORATION
Woolworth Building, New York, N. Y.

Pacific Coast Branches:
Gill Piston Ring Co.
1313 S. Figueroa St.,
Los Angeles, Cal.

Gill Piston Ring Co.
803 Van Ness Ave.,
San Francisco, Cal.

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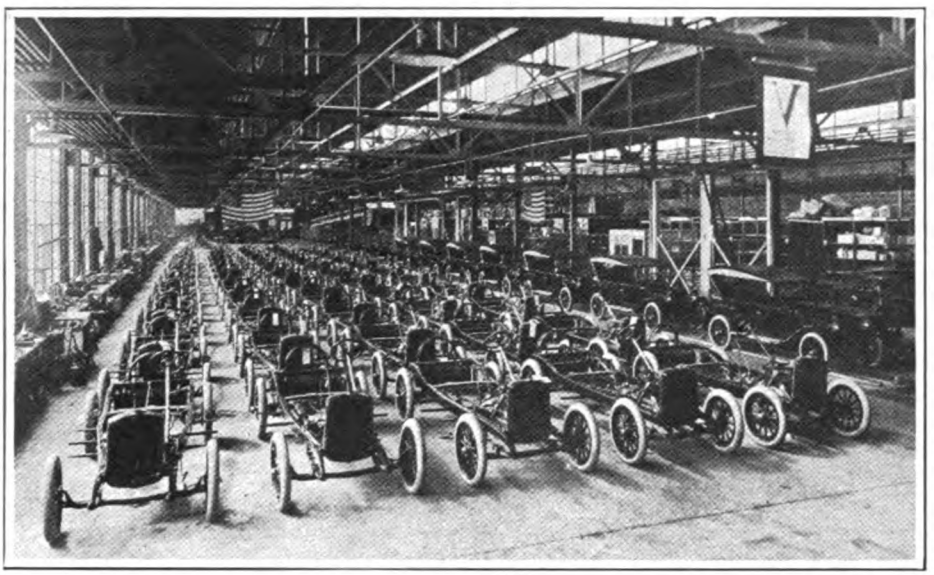


ONE DAY'S OUTPUT OF GRANT LIGHT SIXES AT THE CLEVELAND PLANT.

"Speed up production" is the order of the day in the big plant of the Grant Motor Car Corporation, Cleveland, O. There must be 20,000 Grant Light Sixes of the present series produced if even present demands are to be met. As rapidly as the chasses are assembled they are put through their final tests. Then they are returned to the main floor of the plant for bodies. In the above illustration is shown a day's output at the Grant plant. In the foreground and extending to the end of the picture in the rear are the chasses ready for bodies. On the right of the picture and astride the endless chain conveyor system are completed cars ready for final inspection when they will be shipped or driven to the 1600 dealers making up the Grant sales and service organization.

The Grant Light Six is an entirely new car this season. The wheelbase has been extended to 116 inches; the lines are long, low and more artistic and the motor has a wider power range and greater flexibility. Bodies are roomy and comfortable and cushions are deep and covered with hand-buffed leather.

New Members for M. & A. M.

At a meeting of the board of directors of the Motor and Accessory Manufacturers' Association at the New York offices recently, the following companies were elected to membership: American Hammered Piston Ring Co., Baltimore, Md.; Chicago Steel Wheel Co., Chicago, Ill.; Corcoran Manufacturing Co., Cincinnati, Ohio; Iron City Products Co., Pittsburgh, Pa.; L. Lawrence & Co., New York City; National Clutch Co., Inc., Irvington-on-Hudson, N. Y.; Roberts Brass Manufacturing Co., Detroit, Mich.; Schutte Body Co., Lancaster, Pa.; Sears-Cross Co., Brooklyn, N. Y.; Special Tool Engineering Co., Dayton, Ohio; Trexler Co., Philadelphia, Pa.; Wellman, Seaver, Morgan Co., Akron, Ohio.

Among other firms elected within the past two months are the following: General Asbestos & Rubber Co., Charleston, S. C.; Hudson Motor Specialties Co., Philadelphia, Pa.; McQuay-Norris Manufacturing Co., St. Louis, Mo.; Macbeth-Evans Glass Co., Pittsburgh, Pa.; Midwest Engine Co., Indianapolis, Ind.; Northwestern Chemical Co., Marietta, Ohio; Perfection Heater & Mfg. Co., Cleveland, Ohio; Story Rubber Co., New York City; Toledo Steel Castings Co., Toledo, Ohio; Triplex Safety Glass Corporation of America, New York City.

* * *

Allen Makes Pronto Extinguisher.

C. Louis Allen, formerly president of the Pyrene Mfg. Co., has given the name Pronto, meaning "quick," to the simplified fire extinguisher which he recently developed and is now manufacturing through the Allen Corp., of New York City, of which he is president. The whole idea behind Pronto is simplicity. It is simple in design, action, manufacture, and as a result costs less to make and can therefore sell at a popular price. The fire-quenching liquid is carbon tetrachloride. Instead of drenching the fire like water, it forms a heavy non-inflammable gas upon contact with fire, spreading like a blanket over the base of the flames, driving off oxygen and thus choking the fire.

Salient Six Well Portrayed.

The Moline Plow Co., of Freeport, Ill., has published a "salient" booklet, one of the most elaborate and artistic ever emanating from an automobile factory. Striking full-page half-tone illustrations are found throughout the book, demonstrating the beauty of the company's product, the Stephens Salient Six car, against scenic backgrounds. Which means that the Stephens is discovered among California surroundings very frequently. Nowhere, also, have mechanical and constructional details been more clearly and interestingly outlined without lapsing into technical mazes than in this offering of the Stephens' makers.

* * *

Anderson Heads Conn. Tel. Sales.

E. C. Anderson, of Chicago, has been engaged by the Connecticut Telephone & Electric Co., as manager of the Sales Promotion and Advertising Departments of that company to succeed Otis H. Adams. Mr. Anderson has for some time been engaged in the sales promotion business in Chicago in the same line. His ability in this work has been shown, and the local concern is planning a big sales campaign under his direction.

* * *

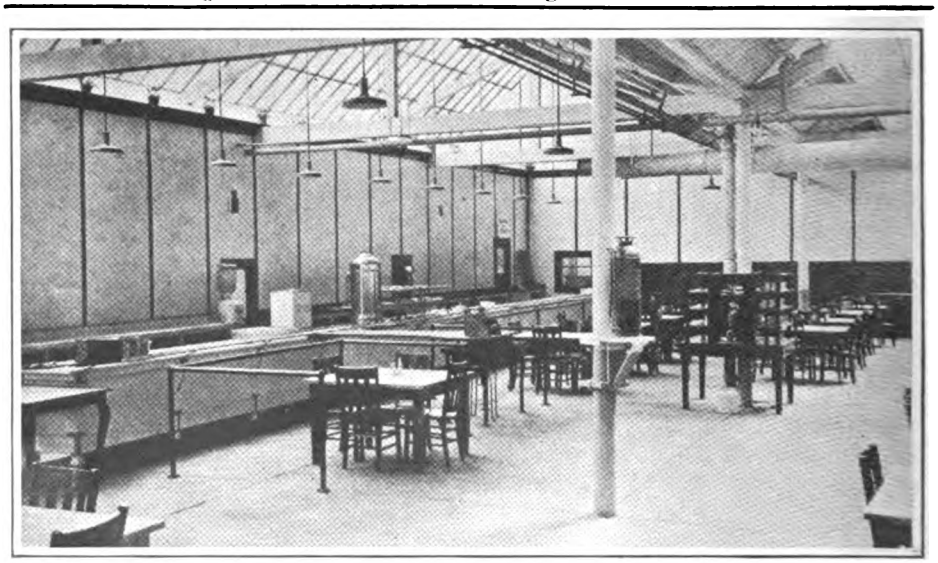
Appointed Goodrich Adv. Director.

E. D. Gibbs has been appointed advertising director of the B. F. Goodrich Co., of Akron, O. He was for twelve years connected with the National Cash Register Co. in the same capacity. The present advertising department of Goodrich will be continued, however, under the direction of E. C. Tibbitts as advertising manager.

* * *

Maguire Is Portage Manager.

John W. Maguire, formerly vice-president of the Brunswick-Balke-Collender Co., of Chicago, is now vice-president and general manager of the Portage Rubber Co., of Barberton, O.



MITCHELL FACTORY OPERATES CAFETERIA FOR CONVENIENCE OF EMPLOYES.

The Mitchell Motors Co., Inc., Racine, Wis., is now operating the strictly first-class, modern cafeteria shown in the illustration. It has been installed in the workmen's rest room to permit those who want them to obtain hot breakfasts, lunches and dinners at cost of production. No appliance known to restaurateurs for guarding against dirt or to increase efficiency in the preparation and distribution of food has been omitted from the Mitchell cafeteria. The food is clean, nourishing and appetizing, and prices cover only the cost of raw materials and preparation of the food, as the investment in the equipment is carried by the Mitchell Co.

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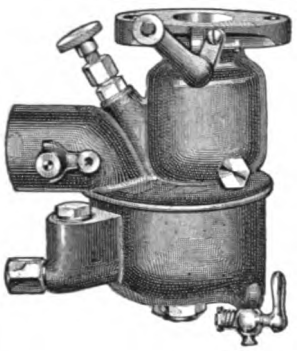

Made for Maxwell Cars

KINGSTON CARBURETORS

THE KINGSTON Company, oldest and largest builder of carburetors in America, has perfected a special carburetor for Maxwell cars. The Maxwell Special is simple, staunch, flexible and easily controlled. It will get the last atom of power from your gas. It will operate smoothly, easily, dependably. If you have never known the complete satisfaction in having a carburetor that meets every demand, all the time, in good conditions and in bad, investigate this special Maxwell Kingston. ¶ It has been built for the Maxwell Owner. It will solve, once and for all, his carburetor problems. It is backed by the strongest guarantee that we know how to make.

TO MAXWELL OWNERS—The price of this super carburetor with hot-air stove complete is $11.00. If your dealer can't supply you send order to us direct.

TO DEALERS—Write us at once for special proposition.

Western Representative: **FRED L. HOUSTON, 1235 Van Ness Avenue, San Francisco.**

BYRNE, KINGSTON & CO., Kokomo, Indiana, U.S.A.

BRANCHES: New York City, 1733 Broadway; Chicago, 1430 Michigan Avenue; Detroit, 870 Woodward Avenue; San Francisco, 1235 Van Ness Avenue; Boston, 15 Jersey Street.

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SCORED CYLINDERS

Repaired by **"Lawrence Patent Process"** with Silver-Nickel Alloy, fused electrically. No warping or enlarging of bore. Same piston and rings fit. All work absolutely guaranteed. Reshipped 24 hours after received. Endorsed by all manufacturers. Also burnt and oil scores repaired. Plants in all principal cities.

Established 1862
L. LAWRENCE & CO.

SAN FRANCISCO, 116 Hyde St. — LOS ANGELES, 1030 South Grand Ave.

All infringers will be prosecuted to full extent of the law.

Twyman Heads New Nash Plant.

B. W. Twyman, formerly head of the Inter-State Motor Co., of Muncie, Ind., has been appointed general manager of the new plant in Milwaukee of the Nash Motors Co. The new plant will be producing four-cylinder cars at the rate of 100 a day by March 1, 1920, according to expectations voiced by C. W. Nash, the company's head, at a recent meeting of Wisconsin and Michigan distributors.

National Sextet Prices Advanced.

Prices on the open models of the National Sextet series have been advanced $140 since the announcement of these cars was made. Prices of closed models, however, remain the same. The new price schedule is as follows: Seven-passenger touring car, $3290; four-passenger phaeton, $3290; two-passenger roadster, $3290; four-passenger coupe, $4200; seven-passenger sedan, $4250.

Four Millions in Four Days.

Four million dollars' worth of preferred stock subscribed in four days is the record of the Lafayette Motors Co., of Indianapolis, Ind. There is now a large over-subscription. The eagnerness shown by subscribers is largely accounted for by the reputation of Charles W. Nash, president; James J. Storrow, chairman of the board; D. McCall White, vice president, and E. C. Howard, vice president. The capitalization is $6,000,000, with a present issue of $4,000,000 non-voting, cumulative preferred stock at $100 per share. The total issue of common stock is 40,000 shares of no par value, of which 10,000 shares will be given with the preferred.

* * *

Eisemann Magneto Expands.

Owing to the great amount of new business being booked, it has again become necessary for the Eisemann Magneto Corp. to acquire additional floor space. In order to take care of the vast amount of Government business during the war, the Eisemann Corporation enlarged its manufacturing facilities to a great extent. After the armistice was signed, it was thought that the increased space could be used in producing the new magneto generator, which was held up on account of war-time conditions. The demand for the company's products, however, has not abated to before-the-war basis, but on the contrary has increased to such a large degree that it is again necessary to increase manufacturing floor space as well as the personnel.

* * *

Cole to Make 6,500 Cars.

During the present year the Cole Motor Car Co., of Indianapolis, will produce 6,500 cars, according to present plans. Entire production will be devoted to one chassis—the Aero-Eight—offered with nine different body styles. Recently the company's board of directors declared a $20 dividend on each share of common stock.

* * *

Lincoln Motor Capital Increased.

The Lincoln Motor Car Co., of Detroit, Mich., has increased its capital stock from $900,000 to $1,400,000. The company was formed two years ago to manufacture Liberty engines for the government.

* * *

Stuart Gayness in Eastern Firm.

Snodgrass & Gayness, Inc., have announced recently the establishment of their firm as advertising agents at 489 Fifth avenue, New York City. The heads of the firm are Rhey T. Snodgrass and Stuart Gayness, formerly a newspaper man of San Francisco.

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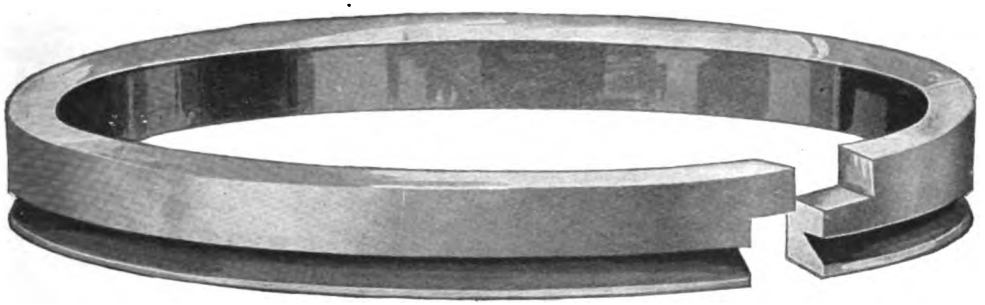

Beware—Attempted

IMITATIONS

NO-LEAK-O

PATENTED

REPUTATION THROUGH ACTUAL SERVICE

On the Market Five Years
Over 20,000,000 in use.
Popular Because
They **"Make Good"**
PRICE **50**^{c} UP

BUY THE "ORIGINAL"

"NO-LEAK-O" "Oil-SEAL-ing" Piston Rings have a 45 degree angle groove full of oil, which pulsates as the piston moves up and down and KEEPS a film of oil between the ring and the cylinder wall, REGARDLESS of warped or worn places on the cylinder wall. The motor maintains maximum power all the time.

NO-LEAK-O PISTON RING CO., Baltimore, Md.
FACTORY, MUSKEGON, MICHIGAN

Exhibition Congress Hotel during Automotive Convention, November 3rd to 8th.

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New Things in the Accessories Field

SOME MERITS OF THE NO-LEAK-O PISTON RINGS.

About five years ago, J. E. Norwood, president of the No-Leak-O Piston Ring Co., 824 W. North Ave, Baltimore, Md., opened operations with a stock of a few hundred rings. Now the company not only carries at its Baltimore headquarters a stock of over 700,000 rings of various sizes, but it has been found necessary to establish a shipping warehouse at the factory at Muskegon, Mich., twenty special representatives meanwhile covering the United States, over 200 prominent jobbing houses stocking No-Leak-O Rings, with new jobbers being added daily. The company claims that over 20,000,000 of its rings are now in use.

J. E. NORWOOD,
President of No-Leak-O Piston Ring Co., Baltimore, Md.

This phenomenal success, according to Mr. Norwood, is due to the merits of the No-Leak-O Ring, which, he says, is unlike any other now on the market. Any make of piston ring will work all right when the motor is new and the cylinders perfectly round and smooth. The lubricating oil forms a thin film about the ring and holds the gas for a few hundred miles. Later, when the cylinder walls have warped or shrunk in spots from heat, expansion and contraction, the average ring cannot conform to these warped and shrunken places. The explosion and other forces destroy the seal of oil between the ring and the cylinder wall as the ring passes over these spots. The gas escapes and the oil passes up. No-Leak-O Rings have a 45-degree angle groove full of oil, which pulsates as the piston moves up and down, thus maintaining the seal, regardless of warped or worn spots. In this way, it is claimed, No-Leak-O Rings restore the power of old and new motors which have lost their "pep."

A new addition to the No-Leak-O factory is well under way, and will be completed about the first of the year. This addition will practically double the present output. The No-Leak-O Rings will be on exhibition at the Congress Hotel, Chicago, during the Automotive Equipment Co.'s convention in that city, November 3-8 next.

ELBE ENTERS RANKS OF LOS ANGELES MANUFACTURERS.

So great has become the demand for the Elbe Speedascope in the past few weeks that the Elbe Motor Co. has decided to enter the ranks of Los Angeles manufacturers, thus adding one more industrial plant to the fast growing list.

A large plant has been secured by Walter Elbe, head of the company, in the heart of the industrial district and work on the Speedascope production will commence at once. Already a large force of men have been set to work and Speedascopes will be turned out as rapidly as possible, as Elbe has orders on hand for many thousands of the devices.

The Elbe Speedascope is a rear sight mirror and is made of the finest quality plate glass, 3x10, with ground edges, mounted in a highly finished nickel-plated frame. The bracket, which holds the mirror in place, is fastened to the center of the windshield and is adjustable to any position, and when once adjusted needs no further attention. Vibration will not jar it from its position. The Speedascope is very simple and can be attached to any car, open or closed, in five minutes.

Since the introduction of the Speedascope a heavy demand has been made on Elbe for deliveries and to meet this pressing demand from all over the country he was forced to go into the manufacturing end of the business, and will market the Speedascope on a large scale throughout the country.

The Elbe Motor Co. has offices at 236 Marsh-Strong Bldg., Los Angeles.

NON-SKID CHAIN WHICH IS NOT A CHAIN.

Patents have been secured by George R. Belknap, of W 117 Third avenue, Spokane, Wash., on a "non-skid automobile chain." The device can hardly be called a "chain." The links, which are interchangeable in case of breakage, are flat on the running surface. The entire link is "U" shaped, the tire fitting into the opening of the "U." The face, which strikes the pavement, is two inches square and is corrugated. Extra links may be added in a twinkling so as to make the chain fit a tire of any size.

MOTOR WEST reaches a larger percentage of dealers than any automobile publication circulated on the PACIFIC COAST.

THE CALIFORNIA TAILOR-MADE AUTO TOP.

The California tailor-made automobile top has made its appearance in the East. Strangely this top, known to the trade all over the country as the California Top, is known in California, where it originated, as the Craftsman Top. It is a strikingly beautiful, graceful top of the non-collapsible or rigid type as is shown by the accompanying illustration.

The frame-work of the California top is made preferably of straight-grained hickory. The rigidity of the top is absolutely essential, and wrought iron braces and knee irons are used to hold the ribs in place.

CALIFORNIA TAILOR-MADE TOP.

The outer covering of the top is preferably of some rich material harmonizing in color with the finish of the metal parts of the car. The material preferred in California consists of a strong cotton fabric base coated with a pyroxylin film. This material has the desired flexibility and vitality and retains its beauty after years of exposure to rain, sun and alkali dust. It is water-proof, grease-proof and stain-proof, is easily cleaned by brushing or washing with soap and water. Many owners of cars having the California tops have been so much pleased with their appearance that they have had the bodies of their machines covered with the same material used in the top itself.

NEW GRAY & DAVIS CATALOG IS MOST LUCID DOCUMENT.

"This factory (the Amesbury plant) was the first in America devoted to the exclusive manufacture of automobile lamps. . . . Every advancement in automobile illumination has had its beginning in this plant." Those opening words, plus great lucidity of text and a super-Tiffany quality of illustration and typography, give an unusual character to the new catalog of Gray & Davis, Inc., of Boston, the well-known manufacturers of lamps, starting, lighting and ignition systems for automobiles. The double-page view of the great glass-fronted factory, with a calm river in the foreground, adds to its impressiveness.

The text was written and prepared by the company's own advertising department, and printed by the Barta Press, Boston.

Without altering basic principles adopted years ago, the weight and size of the generator and motor has been reduced to the minimum and the round type of instrument adopted. Other changes are stated and illustrated in a way to reach the mind easily. The catalog is worth sending for.

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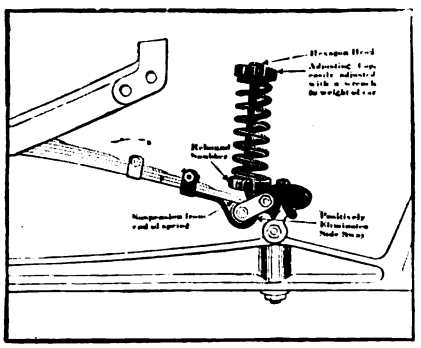
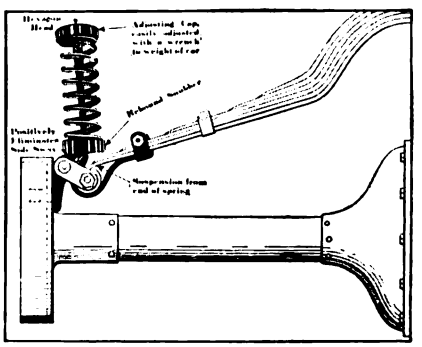
STOP! $13.00 PER SET OF FOUR

LANSHIELD SHOCK ABSORBERS



FRONT



REAR

Have you installed Lanshield Shock Absorbers

Made for all models of Ford Cars

If Not Why Not?

Ask the man who has installed them

Why worry about Bad Roads Ride in Comfort

There is only one answer—*Lanshield's* will do it

MANUFACTURED BY

LANSHIELD MANUFACTURING CO.

NEW HAVEN, CONN.

For Sale by all Dealers

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SOMETHING ABOUT THE NEW AMAZON INDUSTRIAL TIRE.

A new oversize five-ply fabric tire, made to fit snugly on a 30x3½ rim is announced by the Amazon Rubber Co., which is rapidly gaining prominence in the tire industry through the splendid quality of its Amazon tires.

This tire is built especially for hard service on Ford and other small commercial cars. It gives to the small car or truck the protection that is needed against hard

AMAZON TIRE FOR FORD COMMERCIALS.

driving and contact with rough roads. The saving in upkeep cost of a light car that will result from such a tire is evident and this tire is already a rapid seller. It carries the regular Amazon guarantee, and is of the same quality which has helped to increase the demand for other Amazon tires.

ROSE TIRE PUMP HOSE.

J. H. Haney & Co., of Hastings, Neb., manufacturers of the Rose Tire Pump, have placed on the market a tire pump hose for replacement, not only for the Rose Tire Pump, but fitting nearly every tire pump made. This hose is 24 inches long, 5-ply fabric, 3-16-inch hole, one end fitted with the regular No. 1 connection and the other end with hose band. The hose is packed six in carton and six cartons to the case. It can be attached in about two minutes with the aid of a screw driver.

ACE STARTER POPULAR ON COAST.

One of the greatest drawbacks to the use of the Ford is its lack of a starting device. It is hard work to get out and crank one of these cars, especially on a cold morning. Of course the driver will work up a good sweat getting the car started, if he cranks long enough, but he does not appreciate this work, so soon after breakfast.

There is a device now on the market which does the work and which can be installed for little money. It is the Ace Starter, of which the Ace-Nunn Sales Co., of San Francisco, are distributors. This device is installed, with a foot primer complete, so that there is nothing to do but climb into the seat of the car and start it. It is a simple operation and easily accomplished.

According to K. E. Nunn, head of the San Francisco company, the demand for this new starter is growing all the time and the country dealers are anxious to get them. The factory in St. Louis has increased its output and is able to supply its rapidly growing dealer organization throughout the country.

The elimination of cranking labor, and the ease of starting the Ford from the seat, is making this new device extremely popular throughout the Pacific Coast territory.

TAPLEX AUTOMOBILE HEATER.

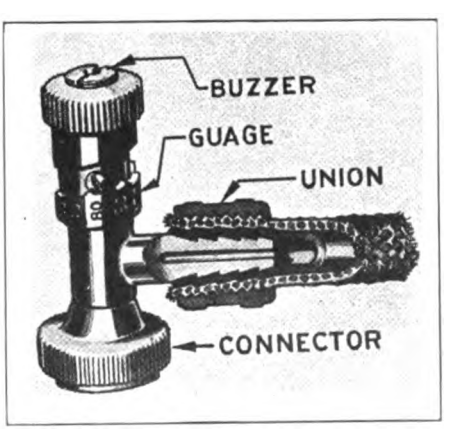
Even on the Pacific Coast the winter-driving owner of a closed car will often feel the need of taking the chill from the car's interior during our not-too-warm months of January and February. A car heater must be an ornament to the car, also, and these conditions are all met by the Taplex Automobile Heater and Foot Warmer. It uses Taplex smokeless fuel made in the form of solid bricks, 12 to a box, costing $1. The heater is an indestructible steel body, double-lined with asbestos, 14 inches long, and is very conveniently placed on the car floor. There are four types of Taplex Heaters, priced at $4, $5, $6 and $7.50. They are made by the Taplex Corp., of Brooklyn.

HILTON SAFETY TIRE GAUGE.

Time is too valuable nowadays to waste any of it in repeatedly removing the hose when pumping up a tire in order to test the pressure. With the Hilton Safety Tire Gauge delays and exertion of this kind are unnecessary. This gauge is distinctive in that it embodies an accurate gauge, a connector and an indestructible union combined in a single compact unit as shown in the illustration. No adapter is needed and one gauge suffices for all the tires.

The Hilton Gauge makes it a simple matter to keep the correct amount of air in the tires as, once attached to the pump, it cannot be lost or misplaced. Moreover, the union is easily readjusted when the hose line breaks.

Each Hilton Gauge is guaranteed accurately set to a certified gauge at the factory. In use, the adjustment is set for the desired pressure, the range available being from 50 to 120 pounds. When this



HILTON SAFETY TIRE GAUGE.

pressure is reached, the gauge buzzes loudly and no more air can enter the tire, thus preventing over-inflation.

In addition to the type shown in illustration, one is made with a threaded stem so that it may be employed at a free air station. Either type is sold for $1.50 by the Mead Engineering Co., St. James Building, Broadway at 26th St., New York.

SPECIAL FEATURES OF MARATHON TIRES.

A special feature of the cord and fabric tires made by the Marathon Tire & Rubber Co., Cuyahoga Falls, O., is that the same tough, wear-resisting stock used on the tread is extended down to the bead. This prevents chafing and scuffing off of the sidewalls when the tire is driven over rough and rutty roads. Consequently, sand and water cannot get into the carcass and ruin it.

MARATHON FABRIC AND CORD TIRES.

Marathon mats, when placed on the running-board in front of each door, prevent mud, dirt and grease from being tracked into the car and ruining the floor carpet. They also prevent unsightly holes being worn in the running board. A smaller mat used as an accelerator mat covers holes made in the floor covering by the heel and insures a non-slipping rest for the heel.

CLEANING THE MOTOR OF CARBON.

After all, the real test of an automobile is the engine. No matter how beautifully polished and finished it may be, if it hasn't power and speed, the beautiful exterior is but little satisfaction to the owner. It is claimed for Johnson's Carbon Remover that it cures 80 per cent of engine trouble. That knocking sound, the difficulty in climbing hills, poor pick-up, lack of power, pre-ignition, noisy motor, etc., are all caused by carbon. A dose of Johnson's Carbon Remover—the engine laxative—will easily, quickly and inexpensively remove all carbon deposits and the engine will run like it did the first 500 miles—quietly and full of "pep." Anyone can easily apply it in five minutes and the cost is trifling. If used at regular intervals carbon will have no chance to accumulate and most valve trouble will be automatically eliminated.

GUARANTEE RAISED ON GATES HALF-SOLE TIRE.

Announcement has just been made by the Gates Rubber Co., Denver, that it has increased the guarantee from 3,500 to 5,000 miles on their Gates Half-Sole Tires. It is stated that records of over 1,000,000 Gates Half-Sole Tires now in use show the average mileage to be between 5,000 and 7,000 miles. Some tires have given as high as 20,000 miles of service.

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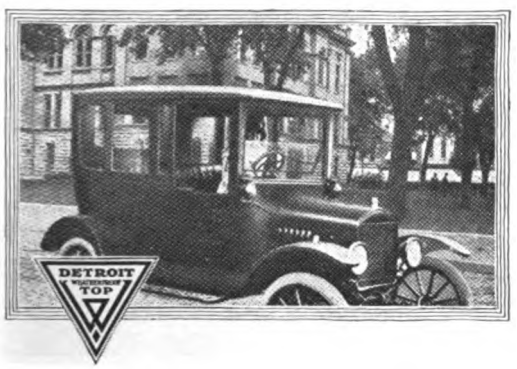
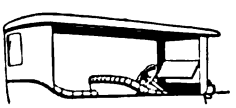
Detroit Weatherproof Tops Give You A Snug Shelter From the Snow and Sleet



Partly open for changeable weather



All open--allowing both vision and fresh air. Changed back in a minute.

That's what you get from your Detroit Weatherproof All-Season Top—closed car luxury the whole year around.

A handsome coupe out of your Ford Roadster or a dignified Sedan out of your Touring Car.

During the Summer you may have your car all open allowing both vision and fresh air—but still ready for instant enclosure at the slightest sign of rain. In the winter you ride along cozily sheltered from the snow and bitter cold.

Light, sturdy, non-rattling, easily installed by yourself. Fits any Ford from 1915 to 1920. Send for beautiful booklet with prices and name of dealer nearest you.

Hudson owners—Write for Special Offer on Tops for 1916-1917 Touring Models H and J. Also made for Chevrolet 490 Touring, 1916, 1917, 1918 and Chalmers 6-30 Touring Model 35A.

DETROIT WEATHERPROOF BODY CO.
PONTIAC. MICHIGAN :: U. S. A.
Also manufacturers of Weatherproof Cabs for Motor Trucks

PORTAGE TIRES

Absolute Satisfaction

CORD AND FABRIC

Not the Cheapest in Price, but the Best in Service

FACTORY BRANCHES

745 Mission Street
San Francisco, Cal.

410 West Pico Street
Los Angeles, Cal.

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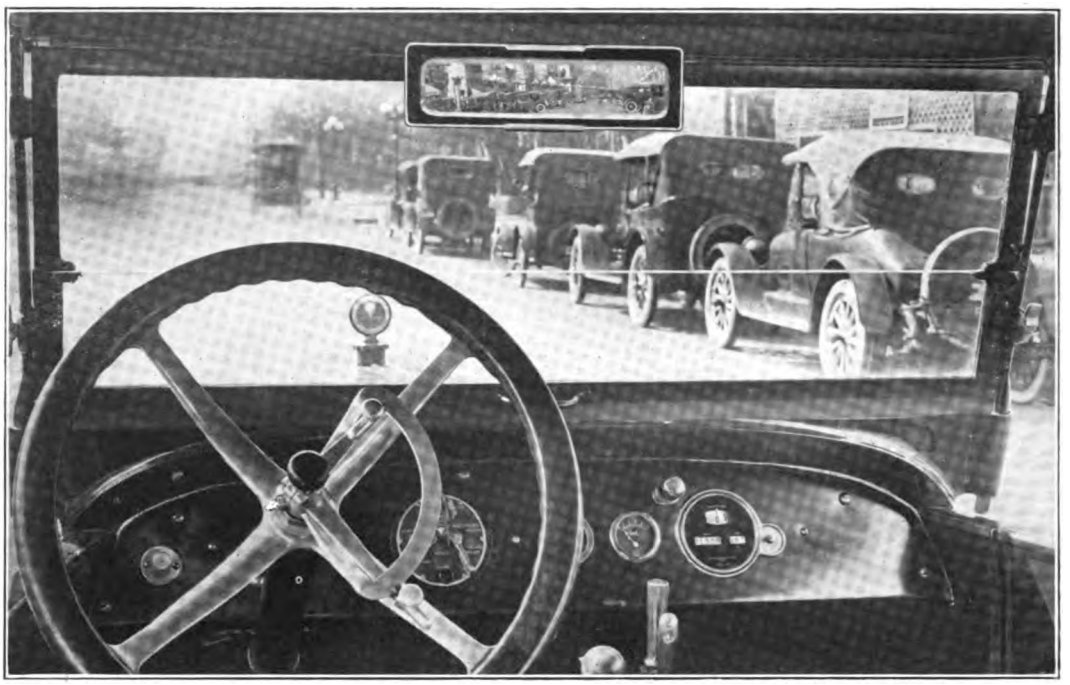
WATCH THE CAR BEHIND WITH AN

Patents Pending **ELBE SPEEDASCOPE** Copyright Registered

The Road Behind You Before Your Eyes



The "ELBE SPEEDASCOPE" Rear Sight Mirror shows you the full width of the road behind from curb to curb through the glass in the back of the top.

"The road behind you before your eyes" is exactly the result of using the ELBE SPEEDASCOPE. Never before has it been possible for the driver to see everything behind, across the entire width of the road, without taking his eyes from the traffic ahead. By use of the Elbe Speedascope the approaching machine, no matter on which side, becomes as plainly visible as if you turned and looked backward. No uncertainty, no dependence on the other fellow.

The ELBE SPEEDASCOPE is made from finest plate glass with rounded edges and round corners, securely mounted in handsome nickel plated frame. Attached and adjusted to any style of closed or open car in five minutes and once attached, "stays put." In an enclosed car the mirror is attached to the front edge of the top, and in an open car to the top edge of the windshield. Vibration cannot affect it.

Price $5.00 For Sale by All Jobbers and Dealers Accept No Substitutes—Demand The Elbe Speedascope **Price $5.00**

Manufactured only by **ELBE MOTOR COMPANY**

236 Marsh-Strong Building, Los Angeles, California

Factory: 145 Llewellyn Street

WEBBER CARBURETOR MEETS SHORE AND MOUNTAIN CONDITIONS.

Nothing is left to chance or to the judgment, or misjudgment, of the operator in the Webber carburetor. According to the claims of the makers, the Webber Mfg. Co., of Boston, Mass., with their device the engine starts easily in any weather without the aid of auxiliary priming devices. This is because in starting the fuel orifice is greatly enlarged but the air passage is not restricted; this allows the air stream to pick up sufficient fuel and carry it to the cylinders.

There is no waiting for the engine to warm up, because by means of the dash or steering column control a mixture rich enough to operate the cold engine is obtained without interfering with the normal action of the carburetor. At all speeds the fuel is split into very minute particles and fuel and air are thoroughly mixed in the carburetor. The maximum power and speed are obtained by delivering the mixture to the engine at as near atmospheric pressure as is consistent with the thorough breaking up of the fuel.

In the Pacific Coast and Far Western regions altitude is a very important question regarding a carburetor. The Webber designers are so confident of their work that they declare that adjustments made at the seashore cannot be improved upon in the mountains. The Jones Auto Supply Co., of Broadway and Twenty-fifth Sts., Oakland, Cal., handle the Webber Carburetor in this territory. Webber Carburetors are manufactured in three models and range in price from $27.50 to $150. Specially designed dash control and priming equipment and tubing connections are also manufactured by the Webber makers.

BROWN TIRE RASP SPEEDS VULCANIZING WORK.

The Brown Steel Tire Rasp is being manufactured by the Jesse F. Brown Mfg. Co., of Los Angeles, Cal., as a very handy device in any vulcanizing shop where old treads and the worn parts of tire casings must be removed before applying new stock. Its advantage over the stobe is that the wheel can be run very rapidly without the danger of bursting. The wheel is 7¼ inches in diameter and 2 inches wide. Unless otherwise specified the arbor hole is ¾ inch in diameter.

GLOBE OFFERS NEW CORD TIRE.

The Globe Rubber Tire Mfg. Co. has announced a new cord tire of the 30x3½ size at its recent four-day convention of branch managers and salesmen held in New York City.

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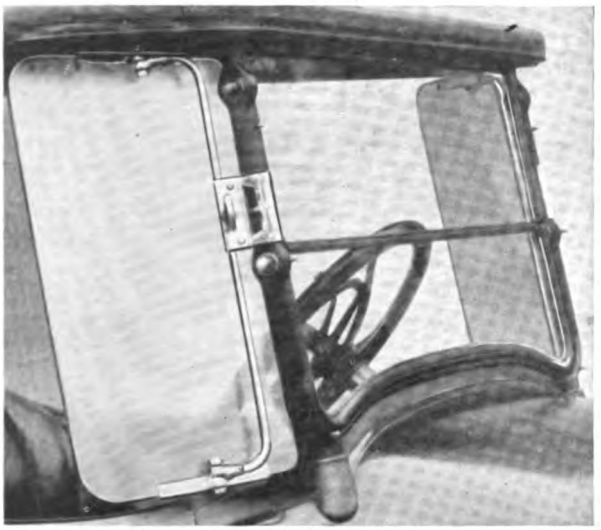
DE LUXE WINDSHIELD

"THE LAST WORD IN CAR COMFORT"



Protects Occupants from Wind and Dust and Adds Distinction to the Car.

De Luxe Has Extra Adjustment for Setting Shields to Create a Breeze in Hot Weather and Ventilate Car.

Only Shield Clearing Side Curtains.

Cast brass parts (non-rusting), finest nickel and black enamel, best windshield glass, two adjustments instead of one, designs to fit your car. **BEST. NOT CHEAPEST.** Installed in 5 minutes

PRICE $25.00

For Sale at All Dealers and Supply Houses.

DE LUXE WINDSHIELD CO.

341 LARKIN ST. MFRS. SAN FRANCISCO, CAL.

Mail orders promptly filled.

for Spare Shoes

The ALLEN TIRE CASE

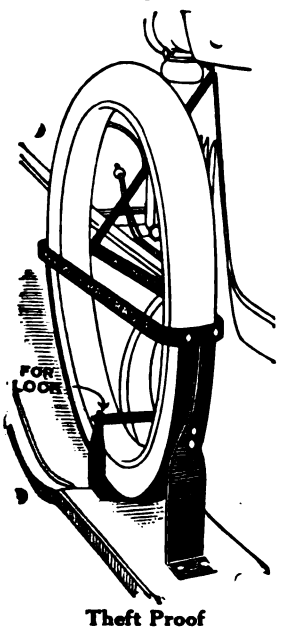
The Allen Auto Specialty Co.

Makers of the ALLEN SHUTTER Radiator Cover

16 West 61 st., New York

2007 Michigan Ave. (Chicago Branch)

Strapless



Theft Proof

The

New Era Cradle

assures

Thorough Tire Protection

The New Era Cradle is a popular priced Tire Carrier, conveniently accommodating any plain or non-skid 30x3½ tires. Attaches — quickly, rigidly to side or rear of All Ford models. Strapless,—does not rattle,—thief-proof. The tire can be removed from the New Era Cradle in a jiffy.

PRICES

No. 208—Single Side	$4.20
No. 327—Double Side	6.30
No. 326—Double Rear	7.35
No. 207—Single Rear	5.25

27 Styles for Every Ford Need

All strapless of course. For all wire wheels—wood demountables, etc. Get further details concerning these, and Tire Carriers for all makes of cars. Insist on seeing name on all genuine New Era Carriers.

New Era Spring & Specialty Company

1190 Hamilton Avenue, - GRAND RAPIDS, MICH.

TENAX

ORDER BY THE NAME

The original blue sheet.

An ideal compressed asbestos packing for any joint. Tenax is permanent whether subjected to gas engine exhaust, cylinder explosions, acid, alkali, superheated steam or any other active agent. Can't burn, rot or squeeze out.

The finest packing made for Automobiles, Tractors, Gas Engines and Steam Engines.

Sheets 50 inches square. Thickness 1/32 to ⅛ inch, inclusive. Made also in 1/64 inch thickness, black graphited sheet only.

Pack with Tenax and Forget the Joint Forever.

ADPASCO TREATED GASKET PAPER

A thoroughly waterproof paper toughened and especially treated to make it excellent for all automotive uses except in contact with burning temperature. A big value for general use around garages and shops. Sheets 36 in. by 40 in.

Write Now for Our New Automotive Supplies Catalog, or ask your Supply House.

ADVANCE PACKING & SUPPLY CO.

17 North Franklin Street, CHICAGO, ILL.

ALLIED INDUSTRIES, Inc., Pacific Coast Representatives

283 Minna St., San Francisco, Calif.
340 Azusa St., Los Angeles, Calif.
1252 First Ave. So., Seattle, Wash.

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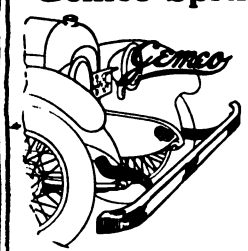
Says Jem Coe, the Cop.

"A Pair of Good Bumpers is Better Than Insurance"

Insurance helps after the smash-up, but it doesn't keep the car out of the repair shop.

Wise motorists know that the only real protection from collision damage is a pair of spring bumpers. That's why Gemco dealers are selling so many Gemco Collision-Proof Bumpers. The curved springs take up all the shock and protect both the car and the bumper.

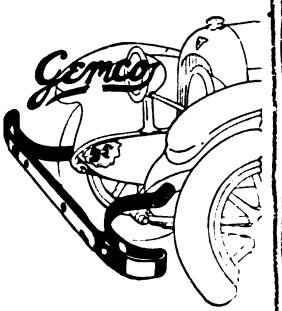
Gemco Spring Channel Bumper



The neatness of the Channel Bar combined with the efficiency of the Curved Spring Brackets. Fits standard cars front and rear. Retail prices, Nickel Finish, $10.54; Black Finish, $9.48.

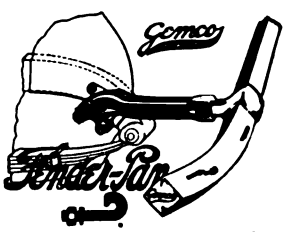
Gemco Spring Bumper

A full spring type—the most efficient bumper ever designed. Universally adjustable; fits standard cars front and rear. Retail prices, Nickel Finish, $14.00; Black Finish, $12.50.



Gemco Fender Fan Bumper

IT IS JUST AS EASY to sell your customers TWO bumpers — front and rear—as one. Show them why two bumpers are cheaper than one repair bill and recommend Gemco Bumpers for both front and rear of their cars.



For those who prefer enclosed spring brackets and diamond bars. Readily attaches to front or rear of standard cars without interfering with splash pans or fenders. Retail prices from $9.00 to $12.50.

Dealers who display these new Gemco Spring Bumpers will find them the best sellers they have ever handled. Are you stocked? If not, write to your jobber or direct to

GEMCO MANUFACTURING COMPANY
725 South Pierce Street
Milwaukee, Wis.

Portland, Ore.—The Lahey Spring Co. will locate in a new one-story building costing $10,000, adjoining the new W. H. Wallingford building.—The Portland Motor Car Co., Packard and Nash dealers, will erect a one-story building adjoining its present quarters at Tenth and Couch Sts., wherein it will locate its service and shop departments.—Gollehour & Rankin, new Service truck agents, have located at 227 Salmon St.

Idaho Falls, Ida.—A. D. Hamilton has bought an interest in the Capital Garage, operated by Wilson & MacMillan.

Burley, Ida.—The Seeds Auto Co. has bought the Shire & Chandler Repair Co. and will give service on Scripps-Booth, Allen and Kissel cars, while Shire & Chandler retain the agencies for these cars.

Escalon, Cal.—S. J. Irwin, Chevrolet dealer, will locate in a fine hollow tile building to be erected here for him.

Fresno, Cal.—Lushbaugh & Byers will erect a $20,000 brick garage at L and Fresno Sts.

Chowchilla, Cal.—C. H. Nichols has retired from the partnership of Nichols & Irvine, operating the Nichols Garage; K. C. Irvine retains complete control.

Porterville, Cal.—Weide Brothers have taken the Mitchell Six and Republic truck agencies.—The City Garage has become Stewart truck dealer.

Pasadena, Cal.—The Midway Battery Service Co. has been incorporated here for $10,000 by I. L. Stone, E. N. McAdam and C. H. Deaves.

Hollywood, Cal.—The Angeles Tire Shop has been opened at 6270 Hollywood Blvd.—Jack Germond, former sales manager for Earl V. Armstrong, Chandler dealer in Los Angeles, has taken the Cleveland Six agency here.—Wanda Hawley, motion picture actress, has become exclusive Globe tire agent here.—The Charles S. Davison Auto Painting Shop has been bought by Thomas Brower.

San Pedro, Cal.—C. E. Jones and A. Wills have bought the Post Garage from Harry McCulley and have added the Cleveland Six agency.

Van Nuys, Cal.—The Van Nuys Garage has been bought by D. A. Bevis and Harry R. Bevis.

Whittier, Cal.—J. E. Schrug has bought an interest in the Lull & Evans Garage, Lull retiring from business.

San Bernardino, Cal.—The W. H. Kennedy Auto Top Co. has moved to larger quarters on D St.

Riverside, Cal.—J. Trogner and H. White have opened an automobile repair shop at Eighth and Vine Sts.

Redlands, Cal.—The Redlands Tire Co., handling Gates Half-Sole Tires, have opened on W. Citrus Ave.

Centralia, Wash.—The Bethlehem truck agency has been taken by G. W. and C. W. Warren.

Seattle, Wash.—B. F. Shields has become distributor for Kane pneumatic shock absorbers.

Yakima, Wash.—George R. Lantz has become dealer for the Stanley steam car in this locality.

Reno, Nev.—L. E. Gallahorn has become a Bethlehem truck agent.

Nogales, Ariz.—The Florentine & Wilkey Repair Co. has opened here; W. H. Florentine and B. Taylor Wilkey are partners in the business.

Phoenix, Ariz.—J. E. Johnson has bought the interest of Doctor Gates in the Double Mileage Tire Co.

Helena, Mont.—The Montana Sales Co. has opened in the Park Garage; several Chicago men are interested in the company, which will handle automobiles and accessories; E. W. Wullenweber is president.

Salt Lake City, Utah.—The Petrie Motor Car Co., headed by E. D. Petrie, has moved into its new three-story building on Second East St.; it contains 33,000 square feet of floor space and will accommodate painting, upholstering, top-making and used car sales rooms.

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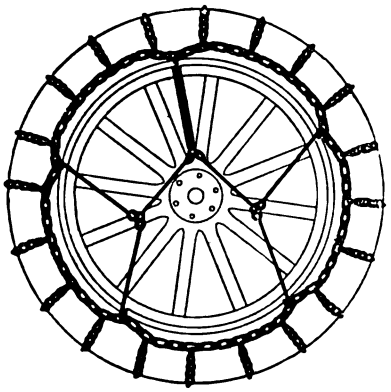


The Fastest Selling All-Year Accessory a Dealer Can Handle

Small investment — Good profit — Takes up little room — Every motorist needs them — And has no excuse for being without them at this price.

MERCHANT'S ANTI-SKID CHAIN TIGHTENER

$1.00 A PAIR

If dealer does not handle, sold direct prepaid on receipt of price

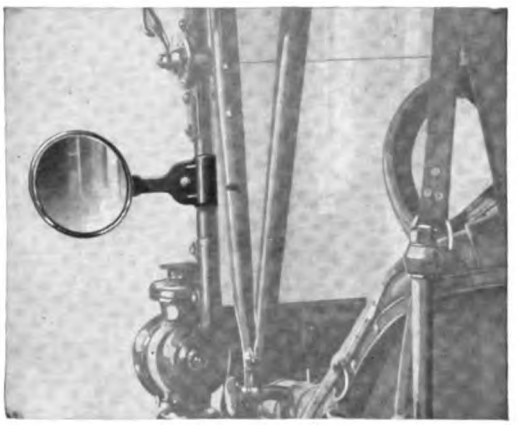
Simple and easy to attach. You can slip it on a customer's car in about one minute, and it means a sale **every time.**

The Tightener catches the chain at five points, giving an easy tension all around. It holds the chain in place, prevents dragging or rattling, and yet permits the chain to creep on the tire, and carry out to the full its non-skid action. Keeps chain from pounding the fender, and prevents it from unhooking.

JOBBERS AND DEALERS:—Write at once for full particulars and generous terms, for now is the time to sell these things.

M. H. Merchant Corporation
236-238 Emma Street, Syracuse, N. Y.

Hindview Auto Mirrors



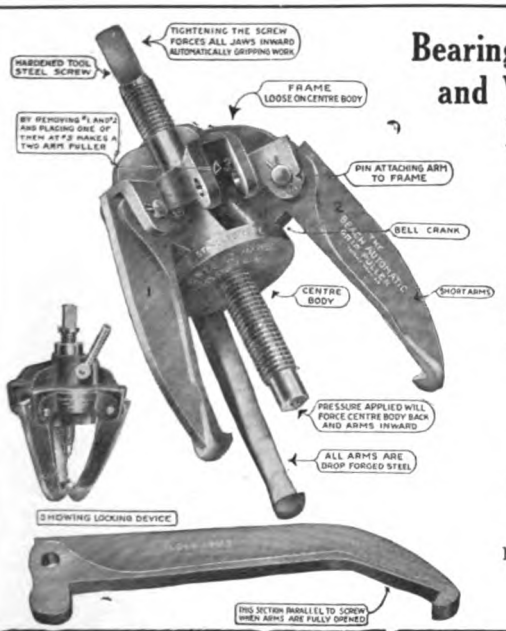
Style A

The "Hindview" Auto Mirror prevents accidents by enabling the driver to keep an eye on the rear traffic without losing sight of the road ahead. The Ball Joint allows immediate adjustment to any desired angle without the use of any tool.

Write for descriptive folder showing complete line.

A. E. MOHRIG, 340 Phelan Bldg., San Francisco, Cal.
Pacific Coast Representative

Kales Stamping Company
444 West Lafayette Blvd. DETROIT, MICH.



Bearing, Gear and Wheel Pulling Made Easy

by using the latest and best made tools.

No tool will help a repairman more than the

GREB AUTOMATIC GRIP PULLER

BEACH PATENT

It has a positive grip, can be locked in any desired position, cannot unhook, and adjusts to work instantly.

TEN DAYS' TRIAL. If your dealer or jobber does not have them, we will send you one. Try it for ten days. If not satisfactory, return it to us and we will refund your money.

JOBBERS AND DEALERS: Get our Proposition.
We also make the Greb RimTool, Greb Auto Lock and Greblox Solder Cement.

GREB PRODUCTS

THE GREB CO.
227 State St., Boston, Mass.

10 DAYS TRIAL

MOUNT LOWE

6100 Feet in Skyland

MOST SCENIC MOUNTAIN TROLLEY TRIP IN THE WORLD

Fare $2.00

PACIFIC ELECTRIC — COMFORT-SPEED-SAFETY

You can't afford to miss our Southland's Greatest Scenic Novelty

Five Trains Daily

8, 9, 10 A. M.—1:30 and 4 P. M.

Pacific Electric Railway

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ENDS YOUR TIRE TROUBLES FOREVER

It brings new happiness and releases you from the horrors of expected tire trouble. Think of the joy of riding along without the eternal fear of a puncture or blow-out.—Think of getting 10,000 to 20,000 miles out of every tire—no vulcanizing, no patching, no repairing of any kind—just real good old pleasure riding. Do away with your inner-tube and the many troubles caused by its use forever by installing in your tires this wonderful and economical

NATIONAL RUBBER TIREFILLER

This marvelous substitute for air is being used by thousands and thousands of satisfied car owners all over the United States and many foreign countries. We have been selling it for more than seven years—We sold over 35,000 sets last year. It is a wonderful big success with years of actual service record back of it.

This Tire filler is made of the best grade of rubber cut in small particles, treated, molded and vulcanized by our special steam process, in sizes to fit all standard makes of tires. It is laid in your tires and not melted and poured in—It gives the same pressure as the well inflated air-filled tire and has all its good riding qualities with none of its faults—Can be transferred from one tire to another—Will not freeze, melt or harden—is not affected by climate conditions—fully guaranteed against deterioration in any form.

Don't let prejudice stand in your way. Good business judgment demands that you at least make a careful investigation. Let us send you full information, sample and prices. DEALERS—We have a fine proposition for you.

National Rubber Filler Co.

224 College St. MIDLOTHIAN, TEXAS

PACIFIC COAST OFFICE
National Rubber Filler Sales Co.
2315 California St. San Francisco, Cal.

Los Angeles, Cal.—The Daly Mfg. Co. has been formed with $25,000 capital stock, $15,000 subscribed, by C. B. Collins, LeGrand Daly and Jerome Reynolds.—Expert Rayfield carburetor service will be the business of C. H. Donnellon, former Coast representative of the Rayfield factory; he has opened quarters at 315 W. Twelfth St.—Dowling-Fisher-DePalma, handling the Revere car, have incorporated for $50,000; the directors are Walter Dowling, Ivan L. Fisher, John DePalma, H. C. Beach and W. G. Smith.—The Security Motor Co., Mitchell dealer, has moved to 1234 S. Olive St.—Spencer, Morris & Mang, Inc., have incorporated for $15,000 capital stock, fully paid in; the directors are Edward B. Mang, Earl B. Spencer and George B. Morris.

Oakland, Cal.—C. P. Hamm, formerly with the Scripps-Booth in Stockton, is now manager of one of the Scripps-Booth branches here of the Anderson-Smith Motor Co., of San Francisco.

Suisun, Cal.—William Vogel has bought the interest of E. W. Buzzini in the Solano Garage; hereafter it will be operated as Glikbarg & Vogel.

San Jose, Cal.—F. T. Bradford, formerly with the Pioneer Motor Co., of San Francisco, has taken the Peerless car and Republic truck agencies here for Santa Clara and San Benito counties.—The California Aviation Motor Co. has been formed with $100,000 capital stock; the incorporators are W. W. Eitel, H. A. Hall, G. C. Singeltary and F. L. Burrell.

Berkeley, Cal.—The T. & D. Garage has been bought from E. D. Halstead by F. A. Rolerson.

Fort Bragg, Cal.—Ed Baker has bought the Conway Garage from Ed Conway.

Santa Rosa, Cal.—A. Dunham will build a garage and service station for himself, costing $4,000.

Guerneville, Cal.—Webber & Marshall have bought the Guerneville Garage from A. L. McGowan.

Petaluma, Cal.—The Independent Auto Supply Co., operating a chain of stores in San Francisco, Oakland, Vallejo and other cities, has opened two stores here in charge of F. G. Cole.—J. A. Cline has purchased a half interest in the Studebaker and Scripps-Booth agencies here handled by J. F. Dickason.

Silverton, Ore.—The Silverton Auto Co. has been sold to Beck & Pettyjohn, from Portland, who will continue the business.

Sanger, Cal.—A new garage building completed here has been occupied by G. E. Norwood with the Elgin Six agency, and by J. M. Bruere, Ford car agent.

Bishop, Cal.—The Owens Valley Transportation Co. has taken over the Midland Garage as its Bishop terminal and machine shop; a storehouse with 4,200 square feet of floor space will also be erected.

Marysville, Cal.—Joseph Evans has bought a half interest in the Jess Rodefer Motor Sales Co., which will be known hereafter as the Rodefer-Davis Motor Sales Co.

Oroville, Cal.—The Feather River Garage has been bought from D. P. Roderick by Clyde and Marion Brown.

Seeley, Cal.—N. A. Pallow has bought the El Centro Standard Tire Co. here.

San Diego, Cal.—Carlson & Simpson, automobile electricians, have moved their business to Union and C Sts.

Santa Barbara, Cal.—E. Switzer has bought the Gregg Automobile Top and Trimming Works on State St.

Ventura, Cal.—G. Ferro has taken the Chevrolet agency here.

Oxnard, Cal.—A. J. Dingman will have charge of the Ford agency.

San Luis Obispo, Cal.—Hammand Brothers, of Santa Maria, have opened a branch agency here for Hudson and Essex cars.—The San Luis Garage will be enlarged by C. H. Kamm at a cost of $35,000.

Santa Margarita, Cal.—H. G. Sherman has opened a Ford car and Fordson tractor agency.

King City, Cal.—The Los Ositos Garage has been changed to the Highway Garage, William Steglich buying the half interest of Gene Talbot in the firm of Talbot & McKinley.

Hemet, Cal.—The Hemet Garage has been bought by S. L. and S. W. Gathercole.

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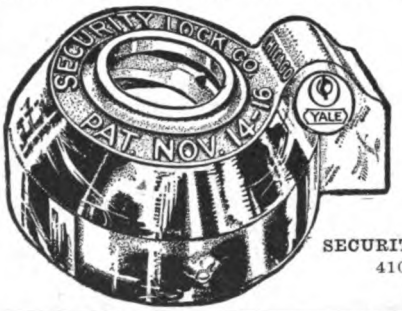
Large stock of all standard sizes on hand for immediate exchange.

Special Bearings Made to Order.
Factory Distributors for New
FAFNIR BALL BEARINGS
BOWER ROLLER BEARINGS

PACIFIC BALL BEARING CO.
1406 West Pico Street Los Angeles, Cal.

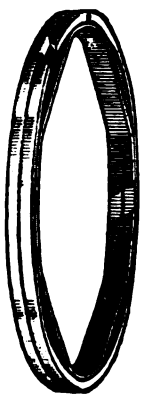
SECURITY AUTO LOCK

The original loose wheel lock for Fords. Approved by underwriters. Insurance reduced 15%. Made of solid brass. Nickel plated. Easily installed in 10 minutes. No drilling. No filing.



No sawing.
No chiseling.
Price $6.50.
Western Distributors Wanted.

SECURITY AUTO LOCK CO.
410 N. Paulina St.
Chicago, Ill.



Piston 3-A Rings

The STEEL Ring with the SPRING INSERT Even pressure all around. No loss of compression or leakage of oil.

Guaranteed—absolute satisfaction or your money back. Write for Booklet and Trade Proposition.

Steel Spring Piston Ring Co., Inc.
147 Metropolitan Ave., Brooklyn, N. Y.
Export Dept.—Automobile Sundries Co.
18 Broadway, N. Y.

MOHAWK "Qualify" TIRES

There is just one simple common-sense reason why Mohawk Tires wear so well—why 85% of all car owners who buy their first Mohawk Tire become permanent Mohawk users.

We use only the finest quality of rubber and fabric, and our standards of workmanship are, we believe, the highest of any tire company.

THE MOHAWK RUBBER COMPANY
AKRON, OHIO
NEW YORK BOSTON ATLANTA CHICAGO
KANSAS CITY DALLAS SAN FRANCISCO

MORE POWER --- LESS FUEL

SU-DIG SERIES PLUGS are the only spark plugs that produce TWO SIMULTANEOUS SPARKS in each cylinder when connected with the ordinary plug. The two opposed sparks ignite the mixture at two points at once. This burns the gas more than TWICE AS FAST, resulting in a wonderful INCREASE in POWER and GASOLINE MILEAGE, and WITHOUT ANY CHANGE IN THE PRESENT EQUIPMENT.

Free booklet, "How to Get More Power." Write for it. Please mention car.

CHANSLOR & LYON CO.,
San Francisco, Los Angeles, Fresno, Oakland, Seattle, Portland.

McCOY MOTOR SUPPLY CO., San Francisco, Los Angeles.
SUPERIOR MOTOR POWER CO.,
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FYRAC Durable SPARK PLUGS

An ideal plug on the hills. Gives greater power to any car because it has one full inch of firing surface.

Made of only the very best materials by expert workmen and subjected to the most severe tests before leaving the factory.

Motorists will want this plug.

National Spark Plug Co.
ROCKFORD, - - ILLINOIS

MOTOR WEST

reaches a larger percentage of dealers than any automobile publication circulated on the

PACIFIC COAST

Sells on Sight

GENCO BATTERY FILLER—The invention that will revolutionize battery testing and refilling. A great device that ends battery testing trouble. The patented dial records last date battery was filled and tested. The Genco Filler costs only $2 and pays for itself many times over in batteries saved. Equip with a Genco now. Order today. Dealers and Jobbers, a wonderful proposition awaits you. Write.

General Scientific Equipment Co.
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MAGNETO

Powerful
Durable
Dependable

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The Eisemann Magneto Corporation, 32 33rd St., Brooklyn, N. Y.
Chicago, 910 S. Michigan Ave. Detroit, 85 Willis Ave., West.

The Motor Truck bought to-day without Electric Starting and Lighting will be out-of-date to-morrow

BETHLEHEM
Internal Gear Drive
MOTOR TRUCKS
Dependable Delivery
BETHLEHEM MOTORS CORP'N, ALLENTOWN, PA.

The Motor Truck bought to-day without Electric Starting and Lighting will be out-of-date to-morrow

1½ tons 2½ tons 3½ tons

A
PEX
Motor Oils
THE HIGHEST POINT OF EFFICIENCY
Gasoline "with the Punch"
PUENTE OIL CO.
Oldest Refiners and Producers on the Coast

San Francisco, Cal.—Eaton McMillan has been placed in charge of the used car department of the Howard Automobile Co.—Houtz & Stiller have opened used car salesrooms at Post St. and Van Ness Ave.—Automobiles, trucks and tractors will be bought and resold by the Althouse-Eagal Co., incorporated for $100,000.—The White-Humphries Motor Co., capital stock $100,000, has been incorporated by W. H. White, A. Wolfen, O. K. Patterson, Anne Howard and A. T. Cluff.—The Auto Painting & Equipment Co. has been formed, taking over the automobile painting business of Fred T. Nichols; the directors are Nichols, Bryan A. Miller and Laura E. Petty.

Seattle, Wash.—The Ever-Ready Electric Service Co. will have a new one-story masonry building erected for it at 908 E. Pine St., to cost $15,000.—C. L. Brockway has been appointed manager of the Thermoid tire sales department of the United Motors Co.

Ogden, Utah.—The Lindell Automobile Co. has been organized to do a general automobile business; capital stock is $50,000; H. L. Lindell is president and treasurer; Albert Rose, vice-president, and J. S. Nelson, secretary.

Hollywood, Cal.—The Andrews Tire Shop has been opened on Cahuenga Ave. by H. H. Andrews.

San Bernardino, Cal.—Fowler & Leeson have been appointed by F. O. Renstrom, of Los Angeles, to handle as sub-dealers Grant and Briscoe cars and Atterbury trucks.

Santa Ana, Cal.—The Teterman Tire & Vulcanizing Co. has been appointed Orange County sales agents for Victor tires.

Long Beach, Cal.—T. A. Stephens will erect a $50,000 brick garage on Locust Ave. to house his Overland and Willys-Knight agencies.

Covina, Cal.—The Covina Auto Painting Co. is now owned by F. C. Jones and E. R. Watson.—T. A. Merritt has opened the Cash Garage and has the Chevrolet agency.

Pomona, Cal.—MacComas & Goodwin now handle Chandler and Cleveland cars and Mack trucks, and have opened fine quarters on W. First St.—The Keystone Garage is now being conducted by W. C. Wallace & Sons.

Riverside, Cal.—The Keystone Garage is now agency for the Essex car.—George A. Roach has sold his repair business and has opened a tire and accessory store on E. Eighth St.

OBSERVING THE SIGN POSTS

That Point the Way to Better Automobile Lighting.

With what candle-power headlight bulbs is your car equipped by experts at the factory?

Ans. 17 to 20 c. p.

What is the highest c. p. recommended by the State Highway Department of California?

Ans. 20 c. p.

What headlight lens is guaranteed to give a satisfactory driving light with 15 to 20 c. p.?

Ans. The PARAB-O-LIGHT.

PRICES $3.25 TO $4.25

J. D. FRENCH COMPANY

3032 DAVIS STREET SAN FRANCISCO, CAL.

Pacific Coast Distributor

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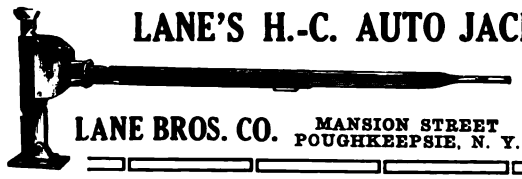

LANE'S H.-C. AUTO JACK

LANE BROS. CO. MANSION STREET POUGHKEEPSIE, N. Y.

IS LOCKED ON HANDLE AND PUSHED UNDER CAR
Placed
Operated
Reversed
Withdrawn
} ALL FROM THE HANDLE END

Folds in middle for stowing away.
Thousands in use. Absolutely guaranteed. Write for prices.

THE World's Best Book on Motor Car Electric Systems, Electric Testing, Elementary Electricity, The Gas Engine from an Ignition Point of View and Driving the Car. 1919 Edition now ready. Special sections covering Packard, Dodge, Hupp and Maxwell Systems: Over 525 circuit and wiring diagrams up to date. 500 pages. Price $2.50 Prepaid. Order today. We also manufacture Electric Testing Instruments for Garages. Catalogue free.

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(Formerly at Dayton, Ohio.)
Union City, Indiana

ABC **100% PURE PENNSYLVANIA MOTOR OILS**

Highest in Lubricating Efficiently
Most Economical in Use

For any internal combustion engine
Automobiles, Tractors, Airplanes

More "per gallon"— Less "per mile"

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"Car of the Hour"

Has gained predominance in its price class by unmatched performance. All that a motor car should be, at a price that is surprisingly low.

118-inch Wheelbase
Valve-in-Head Motor

Elgin Motor Car Corpn., Argo, Illinois

MORELAND TRUCKS

All Morelands burn Distillate

They are reliable, rugged and powerfu transportation units

Moreland Motor Truck Co.
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BEST FOR THE WEST

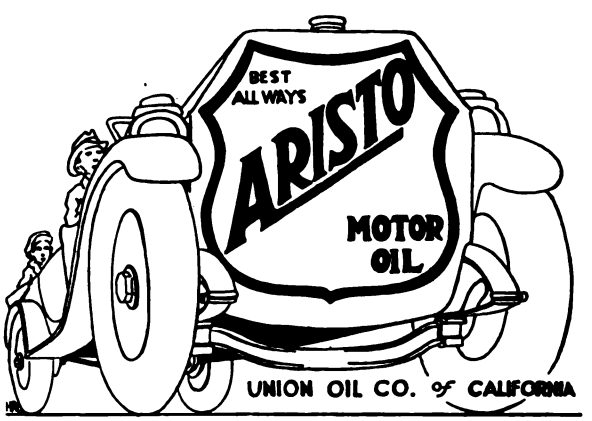
SUNDERMAN **$7.50**
F. O. B. Newburgh N. Y.
Vacuum Carburetor

Model F, for Ford, Metz and Saxon Four, has shown marvelous gasoline economy and remarkable increase in power.

Perfect carburetion can be secured only through perfect mixing of gasoline and air in proper proportions. The Sunderman Carburetor not only produces such a mixture but breaks up the gasoline globules so finely that a **MORE POWERFUL mixture** is the result. Sunderman-equipped cars save from 30 to 50% in gasoline—increase mileage from 42 to 100%.

Order at Once—Splendid Dealer's Proposition.

SUNDERMAN CORPORATION, 17 Chambers St., Newburgh, N. Y.



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CARS UNLOADED DIRECTLY INTO WAREHOUSE
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RATES—One time, $4.00 per inch; three times, $3.75 per inch; six times, $3.50 per inch; twelve times, $3.25 per inch; twenty-four times, $2.75 inch

CYLINDER WORK

SCORED CYLINDERS

made perfect by the Klassen Copper-inlay process. No heating, no re-boring, no chance to crack or warp.

Our Guarantee—A new block of cylinders if any one of these inlays ever comes out. We have been repairing perfectly hundreds of wrist-pin scored cylinders at a fraction of the cost of re-boring.

(Patented)

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SCORED CYLINDERS
REPAIRED BY
Lawrence Patent Process

Fused with our silver-nickel alloy. Same pistons fit. Reshipped 24 hours after received. Approved by all motor manufacturers. Guaranteed for life of motor.

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All infringers will be prosecuted to full extent of the law

REPAIRMEN, LISTEN!

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The Heiser Improved Cylinder Reboring Tool for FORD MOTORS is the only reboring Tool in the world that is self-sharpening. It is the only Tool except expensive grinders that will not leave the finished cylinder slightly tapered toward the bottom. It is the only Tool that rebores between centers—this insures a finished cylinder, square with the crankshaft, round, straight and true. It is adjustable, and the only Tool that will rebore different sizes without losing the adjustment. The best mechanic in the world can't build reputation without proper TOOLS and EQUIPMENT. THE HEISER IMPROVED CYLINDER REBORING TOOL makes good shops out of poor ones and better shops out of good ones. Write today for full particulars.

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BALL—ROLLER BEARINGS

STANDFORD ROLLER BEARINGS
For Ford and Chevrolet 490 Front Wheels.

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We carry an immense stock of parts for nearly every make and model of car ever made. No matter what part of a car you may need a part for, we can most always fill your order.

We have hundreds of cylinders, crank cases, crank shafts, axles, axle housings, hoods, radiators, bodies, frames, springs, transmissions and gears of all kinds.

Motors Motors Motors

We have a large collection of motors from 10 to 120 horsepower, which can be used for boats, tractors, trucks, pumping plants, and ditching machines; also a large stock of new accessories and gears that are at a discount of 50%. Magnetos, carburetors, generators and starters of all kinds.

Learn to rely on our service, and you will solve your parts problem. Ten years' experience in the business. All mail orders filled correctly the same day ordered. All goods guaranteed, on money-back basis.

CALIFORNIA AUTO PARTS & WRECKING COMPANY
Successors to
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EMO TRANSFORMERS

Will Increase Power—Add Fuel Mileage—For Automobiles, Aeroplanes, Trucks, Tractors, Motorcycles, Marine and Stationary Engines

EMO TRANSFORMERS transform the ordinary slow, faint spark into a high-tension blue blaze or flame which instantly explodes all the vapors even in the lowest gravity fuel, thereby insuring greatly added power and mileage. This intensive blue-white EMO flash keeps the spark plug points free from carbon, soot and oil. Prevents "bucking" or "loping." Insures easy starting, quicker acceleration, and a sturdy, uniform flow of power at all speeds. Protects the entire ignition system. Save many times their cost in fuel and spark plug economy. One EMO on each plug makes all cylinders pull even. Can be attached by anyone.

$1.00 Each at Dealers, or sent prepaid upon receipt of price. State make of car when ordering.

The Emo Laboratories 2255 North Illinois St. INDIANAPOLIS, IND.

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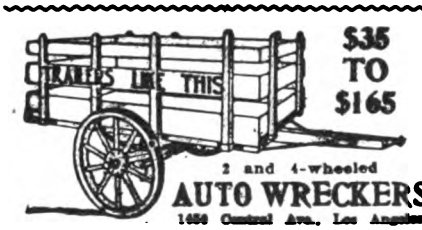

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TIRES

ECONOMY - QUALITY - SERVICE

Slightly Used and Demonstrating
TIRES AND TUBES
ALL STANDARD MAKES NO JUNK
Satisfaction Guaranteed

Size	Tires	Tubes	Size	Tires	Tubes
30x3	$5.00	$1.35	35x4	$9.00	$1.75
30x3½	6.00	1.45	36x4	9.00	1.75
31x3½	6.25	1.50	34x4½	9.25	1.75
32x3½	6.50	1.50	35x4½	9.50	1.80
34x3½	7.00	1.60	36x4½	9.75	1.85
31x4	7.25	1.65	37x4½	10.25	1.90
32x4	8.00	1.60	35x5	10.50	2.00
33x4	8.75	1.70	36x5	10.50	2.00
34x4	8.75	1.70	37x5	11.00	2.20

Get Our Special Prices on New Tires

Terms: $1.00 deposit with each tire ordered, balance C. O. D. subject to inspection. Specify style of rim to avoid delay. Although used tires are not guaranteed for any definite number of miles. WE GUARANTEE OUR TIRES to give the best service in proportion to the prices paid, or reasonable adjustments are made. All tires sent in for adjustment must be prepaid.

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"MORE POWER TO YOU"
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PROVEN BEST IN EVERY TEST
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Saves 25% to 50% Gasoline, removes carbon, produces motor efficiency and completes lubrication.

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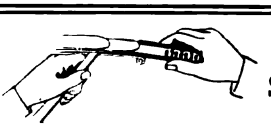

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Right Between the Leaves of the Springs.
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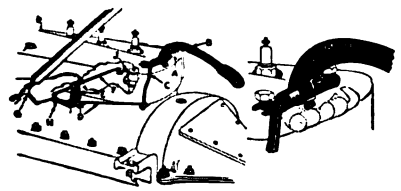
BECAUSE
It will save you one hours time in making Installation and cost you no more than any ordinary accellerator.



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THE 4 in 1 TOOL

The indispensable wrench for all car users. It Fits the Spark Plug, Valve Cap and rim lug, as well as being a tire iron. Cannot slip off and hurt the hand.
NICKEL PLATED PRICE $1.50
Ask your dealer, or order direct from
The Four in One Mfg. Co. 940 South Los Angeles Street LOS ANGELES, CAL.

FACTORY REPRESENTATIVES.

"The Rolling Tides do the work"
ROFILO
VALVE GRINDER
H. A. BROWNING
Factory Representative
433 W. Fifth St.
LOS ANGELES, CAL.
Inquiries from Mfgrs. Invited

TIRES.

TIRES 1/3 LESS
Perfect, new tires, all sizes, non-skid or plain, fabric or cord. Prepaid on approval. 8000 to 10,000 Miles Guaranteed
30,000 Customers. Catalog Free. Agents Wanted.
Service Auto Equipment Corporation
994 Service Bldg., Kansas City, Mo.

Joins Remington Agency.

Finley H. Green has been appointed general manager of the E. P. Remington Advertising Agency, which acts as the agent for a number of advertising accounts, among which are notably the Stewart Motor Truck Co. and the Berling Magneto.

* * *

Halladay to Aid Maxwell Head.

C. P. Halladay, connected with the automobile industry for seventeen years, has become assistant to C. C. Hanch, general manager of the Maxwell Motor Co., of Detroit, Mich. During the war Halladay was assistant chief of the automotive products section of the War Industries Board.

ACCESSORIES

ROSE GREASE GUNS
"Rose" Grease Guns are self-loading. They fill by suction—anything from light oils to the heaviest greases. Made of steel throughout. Heavy double cup leather.
No. 1 Auto 12½x1¼"
No. 2 Truck and Tractor 19½x1½"
No. 3 Shop and Garage 24½x1½"
ROSE
Grease Guns net the Jobber and Dealer a nice profit

Over 1,000,000 ROSE TIRE PUMPS
In use in the United States. 2,000,000 more will be sold this year. *The Patent Valve is the reason.* Five years satisfactory service to the user is the past record of *The Rose Tire Pump.* All steel construction, will not jam or dent in the tool box. Equipped with the best hose that money will buy—5 ply, 3-16" inside diameter, 17-32" outside diameter.

If your dealer cannot supply you, write us
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WINDSHIELD CLEANERS

RAIN-SNO
CLEAR VIEW
WINDSHIELD CLOTH
AVOID ACCIDENTS
Do not drive your car with a Rain-Blurred Windshield
Over 10,000 Accidents Yearly caused by such a condition
RAIN-SNO "RED CLOTH" keeps the entire glass clear by chemical action. One application over wet windshield will give a clear driving vision which will last as long as any storm. *Be insured against accident* and secure a RAIN-SNO CLOTH today. At your dealers or by mail postpaid. Price 50 cents
Refuse substitutes and insist upon the Original "RED CLOTH"
Made only by SUFFOLK MANUFACTURING CO.
3168 Washington St., Boston, Mass.

AUTO WINDOWS.

UNIVERSAL AUTO WINDOWS.
Made of polished plate glass, frames heavily nickeled on brass for both sides of curtain. Up-to-date top shops are using them. Send for circular showing styles and price list.
HARRY M. WATERMAN, Distributor
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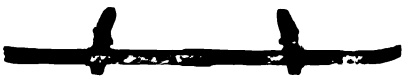
SPRINGS

Cambria Spring Company
"Proven Quality"
CHROME VANADIUM AND CARBON STEEL SPRINGS

Cambria, the Unbreakable Rattle and Squeak Proof Bumper



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Forgings, Demountable Rims Applied
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We are fully equipped for manufacturing Automobile and Truck Springs of superior quality. We solicit the inquiries of Automobile and Truck Manufacturers. We carry a large stock of *Ford front springs,* and also manufacture one-piece angle iron auxiliary radius rods for Ford cars.
SHUNK MFG. CO., Bucyrus, Ohio.

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Distinguishes the BEST from the REST
The *Choice* of the MAN *who* KNOWS
No Rocking or Swaying on Curves
Guaranteed 5 Years
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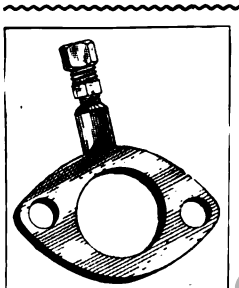
Los Angeles 775 Towne Ave. Portland, Ore. 503 Alder Seattle, Wash. 562-1st Ave., S.

INLET GASKETS



Puritan Inlet Gaskets
Designed for connection of air valves, moist air devices, primers, de-carbonizers, etc.
Sets between carburetor and manifold.
Illustrated shape.
1" carburetor ..$ .80
1¼" carburetor .90
1½" carburetor 1.00
Other shapes and sizes in proportion.
The Puritan Machine Works Stoneham, Mass.

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The Peak Standard of Tire Value The More Mileage Adjustment

MUTUALLY satisfactory dealing between buyer and seller must be founded on established, or agreed standards. Otherwise, the sale of a tire is like a man in a court where whim and prejudice may any instant be the law.

¶ The sale of a Goodrich Tire automatically certifies the tire's definite future service in the Goodrich More-Mileage Adjustment—6,000 Miles for Fabric Tires—8,000 Miles for Silvertown Cords.

¶ This Goodrich Certification measures out to the buyer the least a Goodrich tire with proper usage will render him.

¶ The performance of Goodrich Tires—as Goodrich users will enthusiastically bear witness—has been regularly in excess of the Certified Mileage.

¶ Gauge the value of tires by comparison with Goodrich *More-Mileage* Adjustment, and your sense of thrift will select Goodrich Tires.

Buy Goodrich Tires from a Dealer

ADJUSTMENT

Fabrics 6,000 Miles; Silvertown Cords 8,000 Miles

GOODRICH TIRES

"BEST IN THE LONG RUN"

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IT PROVES THAT A FORD CAR DOES NOT HAVE TO RATTLE AND JAR:

MOST FORD owners think the Ford has to rattle, shake and jar when they put on the brake—lurch, jerk or jump when they start or reverse.

They blame the car, when the trouble is entirely due to the linings used for starting, stopping and reversing.

Ordinary plain linings get a hard slick surface from friction and oil. Their gripping power becomes polished and burned away. When the pedals are pressed, these hard, smooth, slick ordinary plain linings grab and slip repeatedly. This grabbing and slipping causes the chattering that Ford owners think is a part of the car.

Advance Cork Insert Linings make Ford cars stop and start evenly, smoothly and quietly. They are unquestionable proof that it can be done. The corks take hold with a smooth sure grip. Oil does not affect them. They never get hard or slick. Advance Cork Insert Linings last three times as long as ordinary linings—keep your Ford running smoothly—save it from rattling to pieces.

Advance Cork Insert Linings

Genuine Advance Cork Insert Lining is packed in a Red and Black box, with a big Cork Insert onit. Insist on seeing the package.

$3.00 per set of 3, including rivets.

Rockies West
$3.25

In Canada
$4.50

DEALERS:

Make a feature of Advance Cork Insert. Get your Window display material working for you — Hook it up with our national advertising.

Advance Cork Inserts are the preference of Ford owners.
Your jobber can supply you—or write direct for discounts.

ADVANCE AUTOMOBILE ACCESSORIES CORP.

56 EAST RANDOLPH STREET :: CHICAGO

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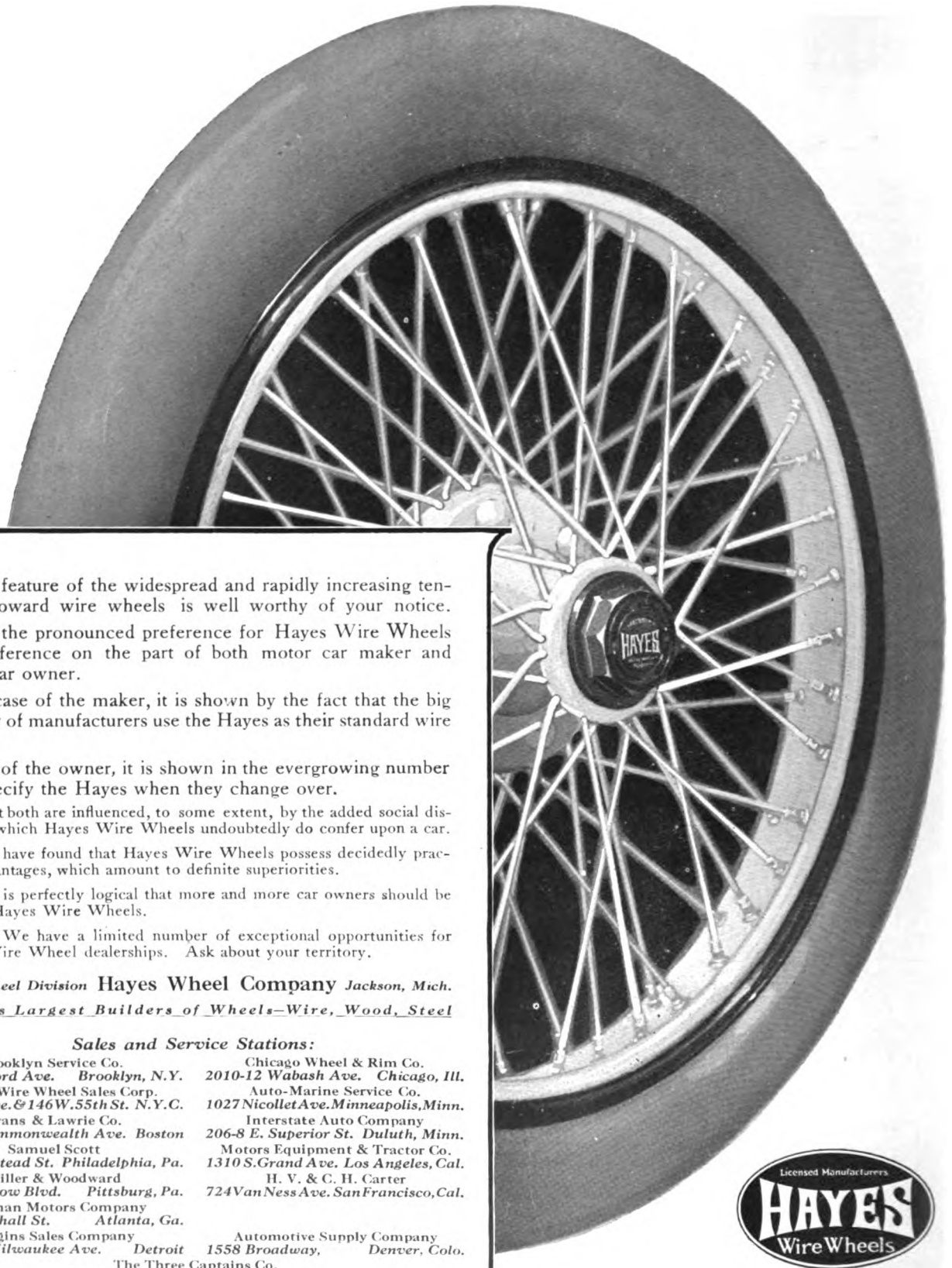

ONE feature of the widespread and rapidly increasing tendency toward wire wheels is well worthy of your notice.

This is the pronounced preference for Hayes Wire Wheels —a preference on the part of both motor car maker and motor car owner.

In the case of the maker, it is shown by the fact that the big majority of manufacturers use the Hayes as their standard wire wheel.

In case of the owner, it is shown in the evergrowing number who specify the Hayes when they change over.

No doubt both are influenced, to some extent, by the added social distinction which Hayes Wire Wheels undoubtedly do confer upon a car.

But they have found that Hayes Wire Wheels possess decidedly practical advantages, which amount to definite superiorities.

Hence it is perfectly logical that more and more car owners should be driving Hayes Wire Wheels.

Dealers: We have a limited number of exceptional opportunities for Hayes Wire Wheel dealerships. Ask about your territory.

Wire Wheel Division **Hayes Wheel Company** *Jackson, Mich.*

World's Largest Builders of Wheels—Wire, Wood, Steel

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HAYES
Wire Wheels

HAYES Wire Wheels

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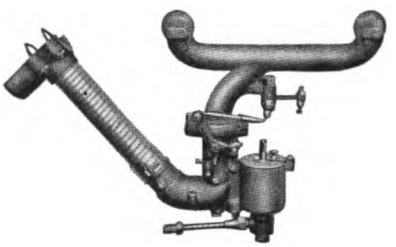

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Get quicker get-away, more power, greater speed, dependable service and reliability out of your Ford by installing a

ZENITH

FORD SPECIAL CARBURETOR

You will be astonished at the difference it will make in the performance of your car. Same construction and principle as in the world famous Liberty Engine Carburetor.

Sold by any Dealer

PRICE $20.00
COMPLETE

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LATHAN AUTO SUPPLY CO.
SAN FRANCISCO

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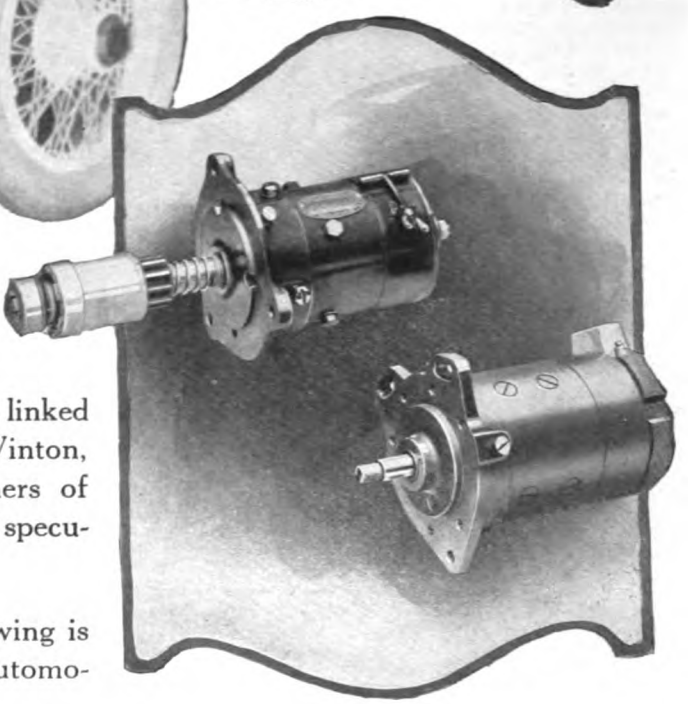
Bijur Starting & Lighting Systems

Standard Equipment on the Winton



Recognition

WHEN a starting and lighting system is linked up with such names as Packard, Winton, Marmon, National, Peugeot and others of the same quality, its quality is not a matter of speculation.

That Bijur is able to command such a following is ample indication of the place it occupies in automotive opinion.

Add to this its adoption by the Army and Navy for airplanes, seaplanes, blimps and tanks, and you have a collective endorsement that places the Bijur System in a premier position in the automotive field.

It needs nothing but its own performance to show why it is winning the substantial support of the world's best engineering minds.

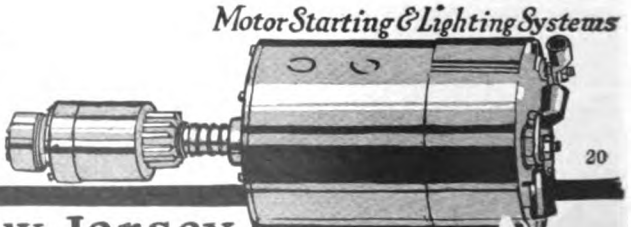
The Bijur Starting and Lighting System is in Service on

Passenger Cars
Motor Trucks
Motor Boats
Seaplanes
Dirigible Balloons
Tanks

Bijur Motor Appliance Company

Hoboken New Jersey

Motor Starting & Lighting Systems



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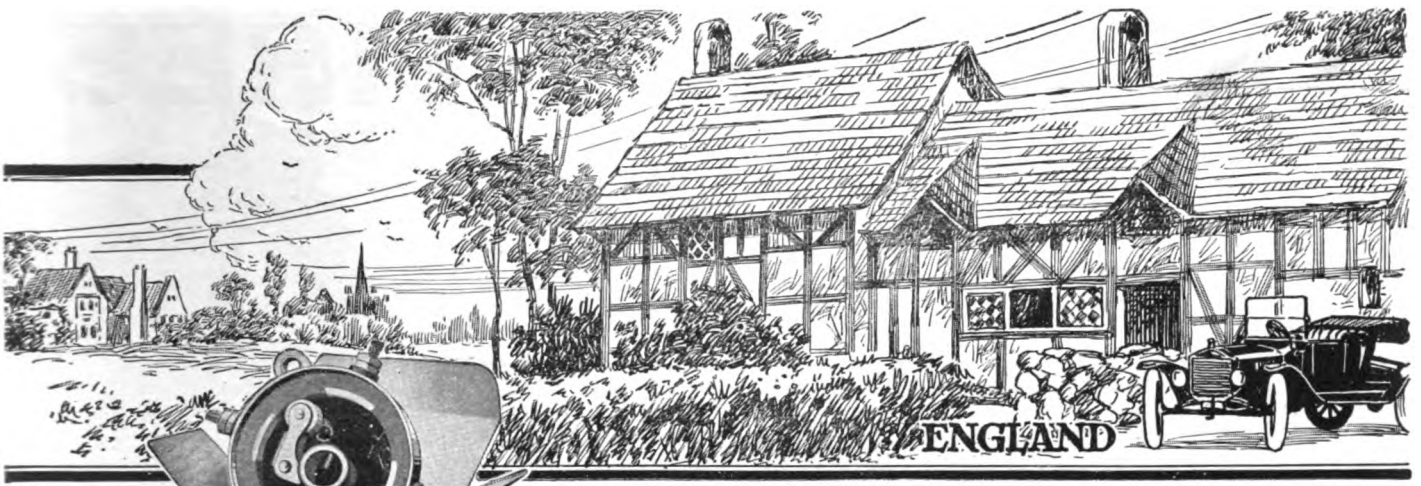
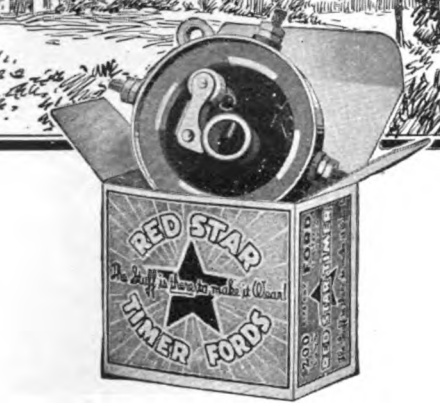
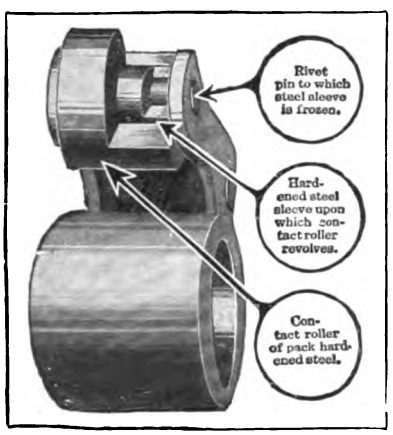
Red Star Timers are used wherever Ford cars are run





Every Red Star Timer is packed in an individual red and blue printed carton

Red Star Timer
FOR FORD CARS-TRUCKS AND TRACTORS



Study the construction of the Red Star Roller

$2.00 in United States
In Canada, $2.75

THE Red Star is the universal choice of Ford owners. Everywhere, Ford owners are demanding Red Stars.

Red Star is the one timer that will make the Ford motor hit on all four — make it run smoothly, with more power and pep.

Only the best material is used in every part. The fibre race is made of the best fibre obtainable. It is fitted accurately in the shell. The contact shoes are mortised in the fibre. The surface is ground and polished extremely smooth. The race wears evenly — it does not pit, furrow or get bumpy.

The roller-on-a-roller, a special Red Star feature, guarantees an accurate, smooth-working timer. The Red Star roller cannot drag or wear angular. It rolls, always, in perfect contact with the race.

DEALERS: — Quality, reputation, advertising, and the famous Red Star trade mark are increasing the demand for Red Stars. You should have Red Stars in stock. Your jobber handles them. If he doesn't quote you promptly, write us.

Auto Components, Inc.
56 E. Randolph Street, Chicago

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BRAENDER TIRES *and* TUBES

Make Satisfactory Service Doubly Sure

"The Tyre to Tie To"

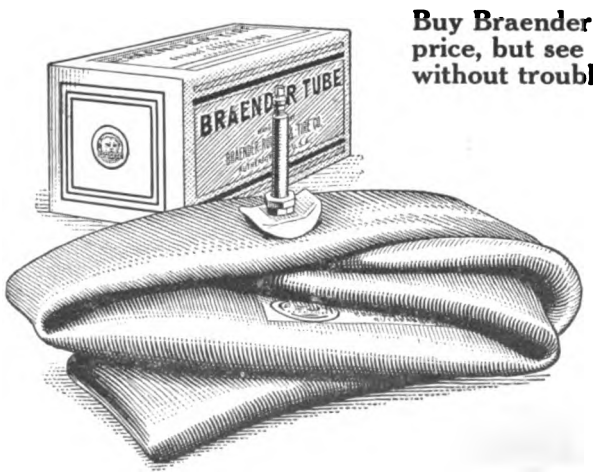
Equip your car with Braender **Tubes** as well as **Tires** and you will have a combination that is 100 percent satisfaction sure.

The important track records established by Braender Tires during the racing season of 1919 at Indianapolis, Sheepshead Bay Speedway, Uniontown, Tacoma, and Elgin prove them to be without a peer for SPEED, ENDURANCE and ECONOMY.

These sensational victories are not only a wonderful endorsement of Braender Tires but likewise of Braender Tubes.

The terrific grind, the smashing strains of racing speed, not only called for a tire of thoroughbred quality but demanded that the tube which it enclosed be of equally high grade.

Braender Tubes—gray and red—are built up of multiple layers of purest rubber and vulcanized into a perfect air retaining unit. This method gives the greatest possible strength and a uniform thickness.



Buy Braender Bull Dog Non-Skid Tires if you want the best at a fair price, but see to it that they enclose Braender Tubes if you would be without trouble on the road and secure extra mileage.

BRAENDER RUBBER & TIRE COMPANY,
Factory: Rutherford, N. J.

BRANCHES—New York: 32 Broadway; Philadelphia: 1350 W. Girard Ave.; Chicago: 64-72 E. 14th Street.

Ask your dealer for them. If he cannot supply you, write the nearest factory branch, or wholesale distributors and they will tell you where you may procure them. Dealers send for proposition.

R. M. Wade & Co. Portland, Oregon, Spokane, Wash.
R. W. Kinney Co. San Francisco, Cal.
G. W. James Tire Co. Los Angeles, Cal.

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STEPHENS *Salient Six*

THIS splendid Coupe, built by a company famous for its fine bodies, is mounted upon the Stephens chassis, which contains the most powerful and most economical engine for its size found in passenger automobiles.

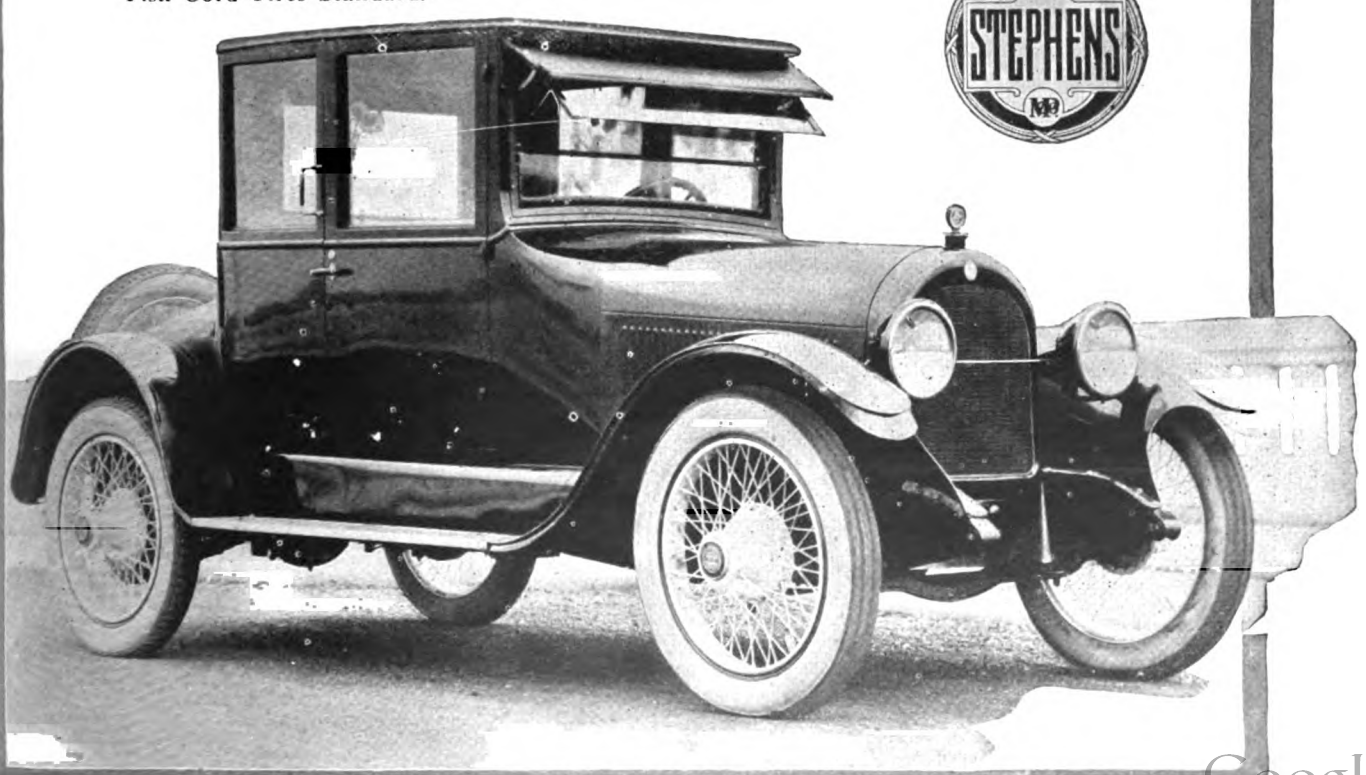
Naturally the surpassing excellence of these features in one motor car, afford the height of motor car satisfaction in value and in service.

Examination will reveal many other features in addition to those approved comforts and luxuries that you would naturally expect in a fine car.

Moline Plow Company
Stephens Motor Works
Moline, Ill.

Factories: Freeport, Ill.

Stephens Salient Six Coupe
3 or 4 Passenger
122-inch Wheelbase; 57 H. P.
Fisk Cord Tires Standard.



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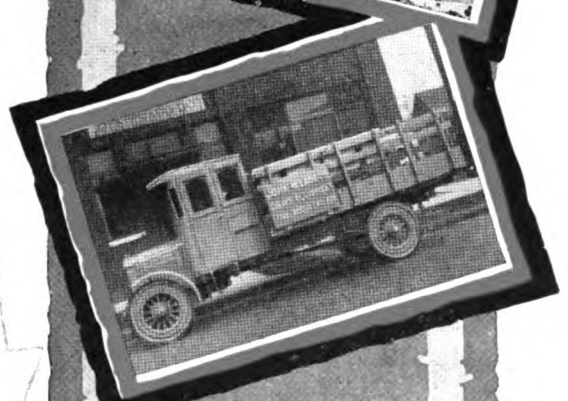
TRANSPORT
Going into every



Transport's story of success is one that thrills any live dealer. Wherever the Transport is introduced it builds a market with amazing rapidity. Our trucks are now going into every line of business—because they meet the demand for proved truck values at the right prices—because they are giving the most satisfactory service—because they insure the longest service—because the men behind Transport have a national reputation for experience and solidity.

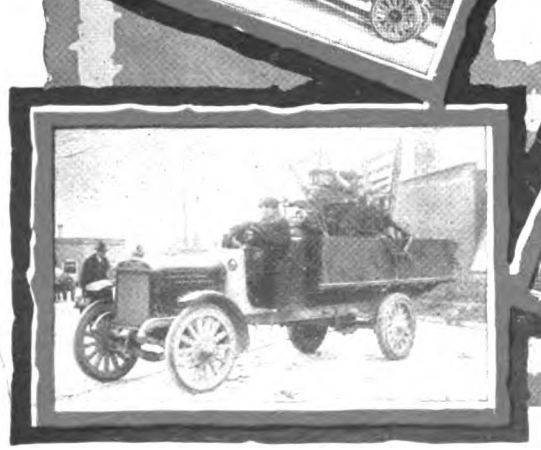
Transport offers dealers the profitable range

With the Transport models you are prepared for the widest range and the most profitable range of truck business.

Our splendid new factory, now in full operation, assures production and service facilities to give you all the benefit of the opportunity.

If your territory is not closed we suggest that you get in touch with us at once

1-Ton Chassis	1½-Ton Chassis	2-Ton Chassis
$1650	**$2050**	**$2585**



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INTERNAL GEAR DRIVE TRUCKS

line of business

Here are some of the values which explain the Transport's quick sales and popularity with users:

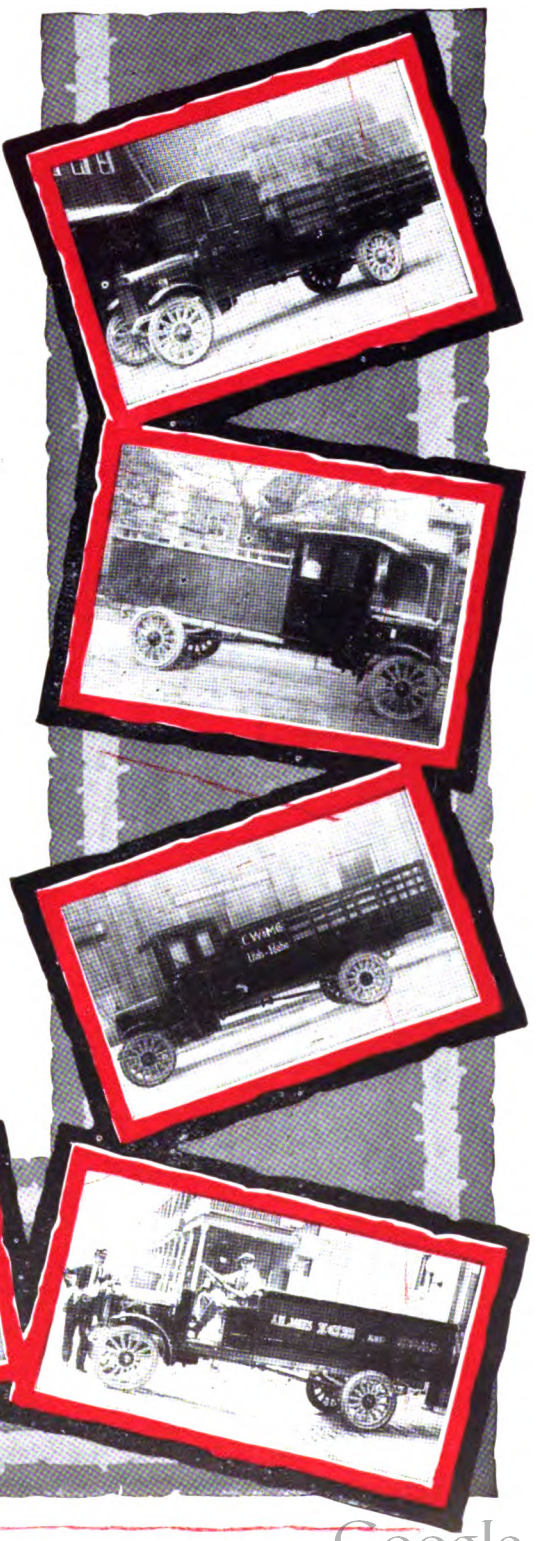
Our own specially designed Hot Spot Manifold adding two miles to the gallon, Extra Heavy Duty Continental Red Seal Engine, Clark Internal Gear Rear Axle, Columbia Front Axle, Fuller & Sons Transmission, Eisemann Magneto, Duplex Engine Governors, Stromberg Carburetor, Jacox Steering Gear, Arvac Joints and Drive Shafts, Detroit Steel Products Springs, Detroit Pressed Steel Frames, Goodyear Tires.

And half the lubrication is *automatically* taken care of. Write for details.

The trade-mark of truck quality

TRANSPORT TRUCKS
HONEST VALUE ALL WAYS
MT. PLEASANT, MICHIGAN, U.S.A.

TRANSPORT TRUCK COMPANY
Mt. Pleasant, Michigan



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FISK TIRE

THE MAGIC CIRCLE

THE SQUARE DEAL works wonders. It is born and bred into Fisk Cord Tires.

Fisk Standards are high—to realize it compare Fisk Cords with any other cord tire. Big, even for oversized tires, well made and good-looking in every detail; you expect uncommon mileage from such tires and you get it.

They are built to an ideal:

"To be the best concern in the world to work for and the squarest concern in existence to do business with."

Next time—BUY FISK from your dealer

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NEW Mitchell SIXES

Our New Victory Model
Wins for Dealers

Wise Dealers Think of the Future

So the New Mitchell Sixes Gain in Esteem

Hundreds of Dealers have come to know the Mitchell ideals — hundreds have visited the factory.

No greater evidence of Mitchell's place in the future is afforded than by observing the Mitchell community at work.

New standards — exacting tests — factory efficiency — perfected machinery — these have brought a new spirit. Every workman, tester and inspector feels his responsibility.

Dealers Who Look Ahead

When today's conditions are changed — when old-time competition returns — only the finer cars in each class will win the major sales.

Mitchell has strategized to win and hold its place. This, together with our future plans, means a stabilized and growing business for Mitchell Dealers. It means protection in the coming days of shifting favorites.

Don't judge the future by today's market conditions. Plan ahead.

There are a few openings in choice territories for Mitchell Dealers. Write to find out if your territory is open and for our new plans.

MITCHELL MOTORS COMPANY, Inc.
Racine, Wisconsin

MODELS and PRICES

$1690 at Factory
For 5-Passenger Touring Car
120-Inch Wheelbase—40 h. p. Motor
3-Passenger Roadster same price
Also built as Sedan and Coupe

$1875 at Factory
For 7-Passenger Touring Car
127-Inch Wheelbase—48 h. p. Motor

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Durable

Three Profits From the Same Effort

Live dealers sell spark plugs that are advertised, because they are easy to sell. They find that advertising saves time in making a sale; that three sales can be made, earning three profits, in the same time it takes to make one when they are trying to sell an unadvertised article.

A Fyrac Spark Plug has *one inch of firing surface* and is a durable plug. These two features are advertised Nationally.

The jobber's salesman will tell you about Fyracs.

NATIONAL SPARK PLUG CO., *Rockford, Ill.*
Export Dept.: 336 Whitehall Bldg., New York City, U. S. A.
Canadian Office: McKinnon Bldg., Toronto, Ontario

FYRAC
SPARK PLUGS

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Little Journeys in PATRIOT Motor Trucks

Hauling Potatoes in Colorado

This 2½ Ton Patriot is owned by Edward J. O'Connor, Denver. He says he cannot farm without it. He has pulled as much as 10,000 pounds out of a plowed field.

Wherever Heavy Service is Demanded

Under unusually difficult conditions, Patriot Trucks are helping to add to their wonderful reputation. We sell Patriot Trucks on the basis of satisfactory operation under extraordinary service.

Revere Model	Lincoln Model	Washington Model
1500 to 2500 lbs.	3000 to 5000 lbs.	5000 to 7500 lbs.

HEBB MOTORS CO., ***Manufacturers,*** **1387 P Street, Lincoln, Neb.**

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DORT

Quality Goes Clear Through

Men Respected for Their Records

Dort distributors have exceptionally good records as business men.

Their ability and achievements are well known to the retail automobile dealers throughout the country.

They are regarded as men of progressive policies and efficient methods.

They are respected for their fairness and far-sightedness.

They realize that their own ultimate prosperity depends on the prosperity of their dealers.

Consequently, they are conscientious in their cooperation, being careful to give their dealers every effective assistance.

Dort dealerships continue at a premium, because they are proving permanent and profitable business connections.

Dort Distributors

EARLE C. ANTHONY CO., Inc.
San Francisco Los Angeles
Fresno Sacramento
San Diego San Jose
Stockton Oakland
California

ARCADE MOTOR CO.
Little Rock, Ark.

BACHMAN MOTOR CO.
Milwaukee, Wis.

BAKER-FISK-HUGILL CO.
Detroit, Mich.

BURWELL-WALKER CO.
Charlotte, N. C.

CARTER MOTOR CO.
Denver, Colo.

DORT SALES CO.
Flint, Mich.

DORT SALES CO.
Kansas City, Mo.

DORT SALES CO.
Oklahoma City, Okla.

LOUIS GEYLER CO.
Chicago, Ill.

KARDELL MOTOR CO.
St. Louis, Mo.

R. V. LAW MOTOR CO.
Indianapolis, Ind.

LACROSSE AUTO CO.
Minneapolis, Minn.

MOTOR CAR EXCHANGE
Buffalo, N. Y.

W. C. McCORMICK
Williamsport, Pa.

McCUTCHEON BROS. VEHICLE & HARNESS CO.
Springfield, Mo.

NORTHWEST AUTO CO.
Portland, Ore.

OHIO WHOLESALE AUTO CO.
Toledo, Ohio

POOLE & McCULLOUGH MOTOR CO.
Atlanta, Ga.

SECURITY MOTOR CO.
Dallas, Texas

TOOZER-GERSPACHER MOTOR CO.
Omaha, Nebr. Des Moines, Iowa

UNION MOTOR CAR CO.
Memphis, Tenn.

UTTERBACK-GLEASON CO.
Albany, N. Y. Bangor, Me.
Boston, Mass.

VALDOSTA MOTOR CO.
Valdosta, Ga.

WM. WARNOCK CO.
Sioux City, Ia.

(84)

DORT MOTOR CAR COMPANY

Flint, Mich.

Canadian Factory, Gray-Dort Motors, Ltd., Chatham, Ontario

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built to wear!

Unless the highest quality of materials was used—Samson performance records would never exist.

On the other hand, without our *improved, scientific construction methods, the best materials* alone would not give Samson results.

Samson Tires are *built to wear*---not merely to *sell.*

We have set a high standard for Samson quality—and our chief ambition is to *maintain it.*

Samson Tire and Rubber Corporation
Compton, California

SAMSON

DEALERS!

Do you want the exclusive sale in your territory of a tire made by master-workmen—marked at a fair price—and backed by our reputation and our enthusiasm? If so, write us today!

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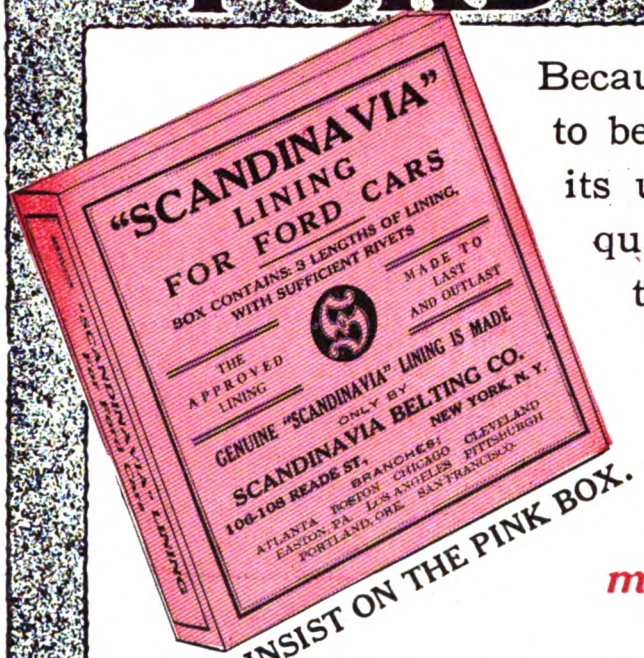
SCANDINAVIA

TRADE MARK REGISTERED IN U.S. PATENT OFFICE

BRAKE LINING for FORD CARS



INSIST ON THE PINK BOX.

Because it has proven itself to be all economy through its unusual long wearing qualities, and its satisfactory service during long usage—

Scandinavia has been the accepted lining for Fords for many years.

AS EFFICIENT AS AN AIR BRAKE—THE LINING DE LUXE FOR FORD CARS

Scandinavia is made especially for Ford use. The hot, oily condition of the Planetary Transmission cannot harm it.

It will not chatter or glaze.

It is wear proof.

It is made of the best long staple cotton interwoven into a compact fabric, especially impregnated, processed and hardened to resist heat, oil and grit.

ATTRACTIVE PROPOSITION TO JOBBER AND DEALER.

SCANDINAVIA BELTING CO., 106 READE STREET NEW YORK, N. Y

BRANCHES: Atlanta, Boston, Chicago, Cleveland, Easton, Pa., Pittsburgh. San Francisco. Los Angeles. Portland, Ore.

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Motor West

THE MOTORING AUTHORITY OF THE PACIFIC COAST

VOL. XXXII., No. 3 NOVEMBER 15, 1919 $2.00 PER YEAR

STIFFER CAR FEES FOR OREGONIANS

Horsepower Ratings Govern Charges for Passenger Cars, and Load-Carrying Capacity for Motor Trucks.

When registering their cars during the coming year Oregon car and truck owners will have license fees to pay greatly in excess of those of previous years. The size of the fee on cars depends on the horsepower rating; in the case of steam vehicles based on Haskell's formula; for gasoline vehicles, on the A. L. A. M. formula:

All steam, gasoline and hydrocarbon-operated vehicles (Except motor trucks having a rated maximum load-carrying capacity of 1 ton and over) up to, and including, 23 h.p.	$15
In excess of 23 h.p. and inclusive of 26 h.p.	22
In excess of 26 h.p. and inclusive of 30 h.p.	28
In excess of 30 h.p. and inclusive of 36 h.p.	36
In excess of 36 h.p. and inclusive of 40 h.p.	48
In excess of 40 h.p.	56

In licensing motor trucks the manufacturer's rated maximum load-carry-capacity is taken as a basis. Trucks in Oregon will pay as follows:

One ton and not over 1½ tons	$32
Over 1½ tons and not over 2 tons	48
Over 2 tons and not over 2½ tons	60
Over 2½ tons and not over 3 tons	72
Over 3 tons and not over 3½ tons	84
Over 3½ tons and not over 4 tons	96
Over 4 tons and not over 4½ tons	108
Over 4½ tons and not over 5 tons	120

Trailers pay one-half the license fee charged on trucks; with less than one ton rated carrying capacity, however, they are exempt from fees. No motor truck in Oregon is allowed to have a rated carrying capacity greater than 600 pounds per inch of tire width of wheels.

Coast Draws Many of Trade.

Drawn alike by climatical considerations, pure business, the Coast automobile shows and the lure of Pacific Coast all-season racing, quite a number of men prominent in all phases of the automobile industry will turn toward the West after the two 1920 national automobile shows become history. Among them are Richard Kennerdell, chairman of the A.A.A. contest board; Fred J. Wagner, official automobile race starter; F. E. Moscovics, of the Nordyke & Marmon Co.; and Alfred Reeves, general manager of the National Automobile Chamber of Commerce.

The Coast visitors will attend the Los Angeles and San Francisco automobile shows in February and about the same time will take in and officiate at the first race on the new Beverly Hills track on Washington's Birthday.

Car-Lifters Surpass Themselves.

More than one million dollars' worth of cars have been stolen so far this year in Los Angeles, the Automobile Club of Southern California finds after compiling statistics on the subject. This means that for this year the car-stealing gentry have already surpassed themselves, their total for 1918 being $950,000 worth of stolen cars.

During the first ten months of this year 1,356 cars were stolen in the Southern California metropolis, according to police figures. For all of 1918 the total of cars stolen was below 1,600.

Display All Anti-Theft Locks.

There are many good devices on the market now designed to foil the automobile thief. As a part of its campaign to educate car owners against loss, the Automobile Club of Western Washington is now displaying in the windows of its headquarters in Seattle a collection of every invention, device and lock claiming theft-preventing qualities. Devices showing the ingenuity of local motorists are especially prominent.

California Has 445,752 Cars.

Motor vehicles in California on Nov. 8 totaled 445,752. This does not include substitute registrations, amounting to 49,303. Of licensed automobile dealers there were 2,865; of chauffeurs, 29,721. Total receipts to the state motor vehicle department were $4,357,548 on the same date.

NEW SPEEDWAY IS FACTOR FOR GOOD

Course Near Los Angeles is Backed by Men Known all Over Coast and Will Advertise Whole Region.

When the new Beverly Hills speedway, located practically in Los Angeles, has its opening meet on Washington's birthday next year, the whole Pacific Coast will benefit from another tremendous advertisement. Work on this speedway is going right along under the direct supervision of Jack Prince, the veteran track builder. Already 3,000,000 feet of lumber and 40 tons of nails have gone into it. The estimated complete cost is over $1,000,000. While the track is in Southern California, such men as Cliff Durant, A. G. Faulkner and A. C. Robbins, known all over the Coast, are primary movers in the affair.

Some do not realize the advertising value, to the whole Pacific region, of such enterprises. Good roads and scenery have done much, through being advertised, to bring it to the attention of Easterners, and to bring them West. Events like the Santa Monica and Corona road races have done s more directly. The new speedway will furnish an excuse which many "tired business men" of the many states east of the Rockies will gladly take, to enjoy a rest and a fiesta in the country's finest climate. They will come in numbers, and will not limit their visits to one spot. Coming, they will be convinced of many things which, at a distance, they cannot visualize. The results will include more branch sales headquarters and factories, more frequent journeys hither—in a word, much more business.

Motor Trucks in Utah.

There are 4,478 motor trucks in operation in Utah, according to figures recently compiled by the B. F. Goodrich Co. Only twenty-four states classify motor trucks apart from automobiles; they have a total of 314,029 trucks.

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ENTER MORELAND PASSENGER CARS

Veteran L. A. Motor Truck Builder Announces Popular-Priced Car in Two Models—A Six-Cylinder Job.

Watt L. Moreland, general manager of the Moreland Motor Truck Co., recently approved the final design on a popular-priced car to be known as the Moreland, and expects the first two models to be on the road inside of 60 days. This is not Moreland's first effort along passenger car lines. He has made, in the past few years, ten different touring cars to try out different features of design and construction.

The new Moreland touring car will be produced and marketed by a new company which will be capitalized for $1,000,000, with separate and distinct production units from those used by the Moreland Motor Truck Co.

The car will be a six-cylinder job, on a 118-inch wheelbase, with three body types. It will embody many refinements of design only procurable today on other cars at a very high additional cost. The wheel equipment will be Disteel wheels and top will be permanent with sliding glass panels and rolled celluloid curtains.

The new company has secured a manufacturing right on the Gillig top, which created much favorable comment at the last San Francisco motor car show. This type of top gives the advantages of a closed car when one is necessary and an open touring car when desired. The body lines are a combination of present beveled edge and square lines, presenting a most attractive appearance.

The Moreland gasifier will be standard equipment on each engine, permitting the use of distillate and other low-grade fuels—a feature of prime importance to the motor car owner from the standpoint of economy as well as ease of operation.

The company will produce one chassis, with three different types of bodies—a five-passenger, a four-passenger and a roadster. The four-passenger will be a special close-coupled coupe, completely glassed in. The roadster, for business men, will be equipped with a permanent top, a combination of the Gillig idea and roadster type.

It is the intention to produce 1,000 cars the first year. Orders have already been placed for a number of the five-passenger models and it is expected that the first showing will bring many more.

The sales organization for the new car is already built up, as it will be marketed through the Moreland Motor Truck Co. dealers and branches. This includes nine factory branches in the State of California and a number of dealers and distributors in other Western states. Besides this, there are export connections in seventeen foreign countries.

The factory organization of the Moreland Motor Truck Co. will aid largely in producing the new passenger vehicle, as many of the men in that organization have had in the past a really worth-while motor car experience. F. H. Whatley, purchasing agent, was some years ago purchasing agent for the Stoddard-Dayton Co., the Gramm Motor Truck Co. and the U. S. Motors Co.; Roy D. Heartz, general sales manager, was formerly assistant director of service and later sales promotion manager with the Hupp Motor Car Co., of Detroit, and sales manager of the Premier Motor Car Co., of Indianapolis; P. H. Mallory, assistant general sales manager, has had a large experience both with distributor organizations and as a dealer, himself, mostly in Western territory.

WATT L. MORELAND,
Los Angeles Truck Builder Who Is Building Moreland Six-Passenger Car.

Entries for Glidden Tour.

Ray Owen, of the Owen Magnetic Motor Co., has offered the first entry of a manufacturer for the Glidden transcontinental tour, which will be run next fall from New York to Los Angeles. The very first entry was made by Frank Wing, a Boston automobile dealer and a veteran Glidden tourist.

Byrne Heads Judd-Brower Service.

Lee Byrne, one of the best known automobile mechanics and service men in the West, is now in charge of the service department of the Judd-Brower Auto Co., Liberty distributors at Salt Lake City, Utah.

Seattle Show to Have Cars and Trucks.

Automobile dealers in Seattle, Wash., have tentatively planned their annual show to take place early in February. While only passenger cars were included in last year's show, owing to lack of space in the Armory building, they plan to find room for automobiles, motor trucks and accessories this year.

A show-managing committee has been appointed by the Seattle Automobile Dealers' Association, consisting of H. P. Grant, chairman, and J. G. Fenton, Max Olsen, Jack Osmond and William McKay. Many details of the 1920 show are not yet decided, not even the site of the new show having been definitely chosen.

Second Automotive Show in Spokane.

Two hundred members of the Spokane Automobile chamber of commerce, of Spokane, Wash., representing practically every branch of the automobile industry in Spokane, set wheels moving for the success of the second progressive automotive show, to be held in that city, Jan. 21-25. The chamber elected officers as follows: President, Harry Twitchell; vice-president, E. C. Finley; treasurer, R. F. Blackwell; secretary, C. P. Brewer. President Twitchell announced that an employment bureau had been established in connection with the association.

First Show in Harbor City.

San Pedro, the harbor city and port of Los Angeles, saw its first automobile show recently when some twelve or thirteen local automobile and accessory dealers exhibited their lines in well-staged automobile show in the Liberty Auditorium, a local building, Nov. 3-9. The show decorations were made to represent a California garden W. J. Graves was show manager. The following were the exhibitors:

Laplace Motor Co.—Metz and Bethlehem trucks.
Vaughan Motor Co.—Westcott, Allen and Federal.
S. P. Motor Supply Co.—Tires, etc.
Shelby Auto Co.—Commonwealth.
Warren Elder—Nash cars and trucks.
Leedon Brothers—Columbia and Leach.
Jones, Wells—Cleveland and Overland.
Armstrong Motor Co.—Cole and Vim.
J. A. Phillips—Buick and Maxwell.
Harris Electric Garage—Exide and Vesta batteries.
Ross Battery Co.—Willard batteries.
Rosenfeld Tire Co.—Miller tires.

New Building for Stewart Station.

The Stewart Products Service Station, of Los Angeles, has leased a new building to be erected at 1364 S. Figueroa St. According to Harry Ungar, manager, 10,000 square feet of floor space will be at their disposal, enough to handle the requirements of 30 cars at one time, besides sales rooms and storage space.

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Riverside for Calif. Dealers' Meet.

Riverside has been chosen for the main 1920 convention of the California Automobile Trade Association, in January. Five hundred or more delegates are expected. Riverside is already making preparations. Robert W. Martland, of Oakland, secretary of the association, was entertained at the Mission Inn early this month, dealers from San Bernardino, Redlands and other places in that section attending.

The northern and southern parts of the state have their respective organizations within the main body, and hold monthly meetings, attended by members from various city units. John E. Spencer, secretary of the Los Angeles unit, has offices in the Merchants' Trust building and gives his entire time to the work.

Mr. Martland visited Los Angeles a few days ago. He is a bundle of energy. He said that for two years he had had a standing offer of a position paying twice as much as his present one, but that "there is something else in life than salary." He said the state body has more than 3000 members, who are gaining much of business value thereby. Many are given important assistance in becoming better businessmen, and the percentage of those in poor financial standing, once considerable, is said to have been reduced to a remarkably small percentage.

Barney Travels Slower Lately.

Barney Oldfield will start from California about January 1 and will be gone several months traveling to Arizona and Coast cities and visiting dealers for the Oldfield Tire Co., of which there are now some two hundred in the United States.

For Barney is very much of a manufacturer now, with no thoughts of racing in his mind, except that it be support of the sport with another driving his cars in contests. Rumor has it that the Harry A. Miller shops in Los Angeles are building a car for Barney. It will follow the 1920 rules regarding piston displacement.

Stuart Unpuncturable Tire.

The Stuart Non-Puncturable Liner & Tire Co., with a capital of $150,000, has been formed at Oregon City, Oregon. The devices to be manufactured by the company are inventions of Dr. C. A. Stuart, the company's president.

City Law Against "Second" Frauds.

Los Angeles recently put into effect Ordinance 38,635, which has the dishonest tire dealer as its target, especially the handler of "seconds," who gives the purchaser the impression that he is buying the best grade of tires.

The law makes it a violation to advertise, publish or give publicity to the sale of any merchandise which is second-hand, used or defective in any way, or which consists of merchandise classed as "seconds" or "factory blemished," unless there be conspicuously displayed directly in connection with the name and description of such merchandise a direct statement, phrase or word clearly indicating the quality of the merchandise offered for sale.

The ordinance was adopted at the suggestion of the Advertising Club of Los Angeles. It is being enforced, too, as one transgressing dealer discovered recently when he was fined $150, with the alternative of 150 days in jail.

Field Selden Western Div. Sales Mgr.

H. T. Boulden, vice-president of the Selden Truck Corporation, Rochester, N. Y., announces the appointment of L. M. Field to the newly-created post

L. M. FIELD,
Western Division Sales Manager Selden Truck Corporation, Rochester, N. Y.

of Western Division Sales Manager of the Corporation, with division headquarters at 995 Market Street, San Francisco, Calif.

Mr. Field, in addition to his new duties, will continue at the head of the Associated Motors Co., a $100,000 California corporation which company operates as distributors in a wholesale way for several lines, including the Selden truck account in the San Francisco territory.

As Western Division Sales Manager, Mr. Field will look after the interests of the Selden Corporation for all the Pacific Coast states, including Idaho, Nevada, Washington, Oregon, Utah and Arizona. He now has plans under way for rehabilitating old dealers and establishing new ones.

MOTORING HORDES HEADED WESTWARD

All Western Roads Now Leading to California—Heavy Tide of Travel Sets in from Storm-Bound Sections.

All Western roads are now leading to California, according to recent reports made by Coast-bound tourists and motorists traveling eastward. The national highway routes leading south and southwest into Southern California are naturally used by the bulk of motor travelers. It is safe to say that with the steady improvement of roads that a greater proportion of this year's tourist travel will cross the continent in their own cars than ever before.

There are more than 1,500 cars bound for California over the National Old Trails route, according to a recent report issued by the touring bureau of the Automobile Club of Southern California. The figures are taken from a count made by Club representatives between Needles and Barstow. Traveling toward the Grand Canyon they counted 109 "foreign" cars and 22 California-tagged machines within 160 miles. Roadside garages and parking spaces were filled to overflowing. The view from a hilltop over the desert was like looking down on old-time caravans, so steady was the motor travel.

From the North Central states quite a heavy volume of travel is coming over the Arrowhead Trail, through Salt Lake City. Such nearer-by states as Utah, Idaho and Wyoming are also contributing strongly to tourist travel. Cars headed northward and eastward are reported as few and far between.

However well the East is represented for the coming winter in California it has not yet eclipsed the volume of tourists from the less climatically favored region of the Pacific Northwest. Roads between Seattle and Portland and Los Angeles are fine in long stretches; they will be much better next year; and Washington and Oregon-licensed cars are very numerous on the streets of California cities.

Between 600 and 700 automobile tourists are arriving in Los Angeles daily, according to the Automobile Club of Southern California. Their average stay is estimated at 10 days, during which they spend an average of $25 a day per car.

From the East itself comes warning of the extent to which winter-vacationing car owners intend to throng to the Coast. According to the touring bureau of the Detroit Automobile Club more tourists are starting for California at this time than during any previous year. Most of them plan to follow the Lincoln Highway, but many will use the National Old Trails route.

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S. F. CAR DEALERS COMING INTO OWN

Winter Conditions in East Increase Deliveries from Factories to This Section—Big Closed-Car Demand.

With the approach of winter San Francisco automobile dealers are finding themselves coming into their own. The thought of lowering skies and wet pavements that often come quite a while before the first of the year has done little to slacken the demand for open cars; while with closed cars of all types the buying season will soon be at its best.

The approach of winter has naturally spurred the Eastern plants to greater output of sedan, limousine and coupe models. From San Francisco northward winter climate conditions along the west Coast are brisk and vigorous and however much the general balminess of the country west of the Rockies is extolled the closed car is finding very notable favor.

San Francisco dealers are generally agreed that on closed cars they cannot overtake orders before some time next year. Many of them are from thirty days to six months behind on deliveries of sedan, coupes and limousines. Comparatively few closed models are bought with the intention of using them exclusively in cool or wet weather conditions; their owners continue to run them through all the seasons.

The general condition of the local automobile distributing trade is one of relief. The Eastern demand is slackening, though not so decidedly as in previous years; foreign exports of automobiles are running strong for the first time in five years; and the steel and coal strikes have been obstacles. But large-scale, ambitiously planned production is at last increasing faster than car sales and San Francisco dealers are filling orders standing since last summer.

"Immediate delivery" is a word to conjure with; it is more often heard now all along the Coast. On-the-spot or reasonably early filling of orders is now being predicted on Moon, Allen, American Six, Haynes open type, Briscoe, Hudson, Stanley Steam, Lex-Sedan and Winton Six cars. Special newly arrived models are the Hudson limousine, Stearns sedan, the Franklin 9B series, and new Grant Six models. Marmon five-passenger sedans, Liberty sedans and coupes and new series 5 Mercers are at present numerous enough for prompt deliveries.

According to L. H. Rose, Northern California's demand for the Chalmers is enormous; he succeeded in obtaining greater allotments but still not enough, although deliveries are being made more quickly than in many months. The favor shown Moon cars is quickly exhausting the steady shipments to the Coast, states Curtis Shellback. Early delivery, without so much stress on "immediate," seem likely on Grant, Hupmobile, Buick and Mercer. Orders filled in rotation are promised on Hupmobile and Buick cars.

The first models of the new Grant Six for display reached F. O. Renstrom recently, who expects to be in a position to fill orders within a short time. Regular shipments of Haynes cars are arriving and open models are fairly numerous. Al G. Faulkner, Marmon dealer, reports demand for quality cars so good as to convince him that he under-estimated the demand.

New cars in the San Francisco territory are the Anderson Six taken by

FRANK O. RENSTROM,
Who Handles Grant, Premier and Briscoe, and Atterbury and Grant Trucks in S. F.

Seymour & Brown; and the Dorris Six, by H. A. Seller. The American Six, handled by Al. G. Sommerville, is another comparatively new arrival; he reports an especially good out-of-town demand. The Stanley steam car is again entering the field and John H. Morgan, of Oakland, has become Northern California distributor.

Quite a number of motor truck dealers report immediate or early deliveries as possible, among them on Pierce-Arrow, Velie, Moreland, Indiana 2½-ton, Acason and Service trucks.

Pennsylvania Rubber in L. A.

The Pennsylvania Rubber Co., of Jeannette, Pa., has opened a branch office in Los Angeles, Cal. The Southern California branch will have as its manager Mr. Edelman, formerly connected with the Omaha branch.

Fine Oakland Building for Harrison.

What will be probably the finest automobile sales building in California outside of San Francisco and Los Angeles is to be erected in Oakland by H. O. Harrison, distributor for Hudson, Essex and Dodge cars in Northern California. On Grand Ave. east of Webster St., Oakland, Harrison will have built for him a fine structure, four stories in height, including a mezzanine floor. The frontage on Grand Ave. is 140 feet and the depth, 125 feet.

The new building will accommodate all the activities of the H. O. Harrison Co. in Oakland and will continue under the management of H. B. Rector, well known from his former connection with the Marmon car in San Francisco.

The sales rooms will have total dimensions of 140x40 feet and will be divided into three separate compartments to accommodate the display and sales of Hudson, Essex and Dodge cars independently of each other.

H. O. Harrison is one of the best known automobile names in San Francisco. His main building, situated at Van Ness and Post St., was recently remodeled at an outlay of $15,000 and is one of the most elaborate and handsome automobile establishments west of Chicago. For the Oakland building about $105,000 is to be expended.

Road Signing Grows Apace.

The Automobile Club of Southern California up to a recent date placed 62,145 guide signs along the roads of Southern California; by the end of the fiscal year this is expected to total 67,500. The desert region, especially Death Valley, is being sign-posted, and signs are multiplying rapidly in the mountains of San Diego county and in Imperial Valley. All army posts and government aviation fields are also being signed.

Phil Lyon in Alaska.

Winter-bound Alaska now has Phil Lyon, of Chanslor & Lyon, well known Pacific Coast automobile jobbers, in its grip. He went north on a hunting trip and was snowed in. Recent reports have it that he will have to remain in Alaska till late spring.

New Manager of Lawrence Branch.

The Los Angeles, Cal., branch of L. Lawrence & Co., at 1030 S. Grand Ave., whose business is that of repairing scored or defective cylinders by fusing electrically a metal compounded of silver, nickel and alloy, has undergone a change of management.

Frank G. Aff is now in charge of the Los Angeles branch. He promises the many patrons of the company a new and unusually up-to-date service and the very best of guaranteed workmanship at economical prices.

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BRIGHT PROSPECT FOR WINTER TRADE

Los Angeles Dealers Beginning to Catch Up with Orders, Hope Soon to Reach Immediate-Delivery Stage.

During last August there stretched an ever-widening gap between the volume of orders flowing in upon Los Angeles dealers and the stocks of cars they had on hand for immediate or reasonably prompt delivery. Since then the strain has eased appreciably. More dealers are now able to boldly promise on-the-spot filling of orders than at any time since the summer of 1918.

The Eastern demand is slackening more slowly than it has in previous years, but the bulk of the automobile factories have struck their stride in production, and the result is a steady Coastward flow of automobile shipments. Immediate deliveries in Los Angeles are now promised on a number of cars of all price grades and types. Winter's coming has stimulated the output of closed cars and for these the Southern California demand is now being rapidly overtaken.

Among the medium-priced cars immediate delivery is promised on Briscoe, Saxon, Nelson, Case, Mitchell, Moon, Columbia Six and Velie. Many dealers in specifying their allotments gave ample rein to optimism; they are now vexing the makers for larger shipments as they see the California winter demand looming.

According to F. O. Renstrom, his allotment of Briscoe cars will fall considerably short of supplying the current demand. For the Moon car the demand is stated to be so great that in spite of steady shipments it can only be temporarily met. With the Case car, recently returned to Los Angeles, where Spencer, Morris & Mang are now dealers, shipments are regular, two carloads a week, enabling early meeting of the out-of-town demand. Frank Nelson reports enough cars arriving to fill a heavy list of long-standing orders.

Either small or retarded production from the automobile factories or heavy demand on the Coast leaves numerous dealers in a position where promises must still be given. Among these the most prominent are the Grant, Chalmers, Cleveland Six, and Hupmobile and Templar on certain models. The first Grant models for display purposes have already reached the Southland; increased shipments induce Greer-Robbins to promise deliveries earlier than heretofore; the same company announces Hupmobiles more plentiful than in a long while, but that buyers must still stand in line awaiting deliveries.

Among the higher-priced cars the buying tendency is comparatively as strong, the Stutz and Jordan dealers reporting especially rapid sales. The smaller Jordan model, the Silhouette Five, arrived but recently on the Coast. Early filling of orders on the new series 9B series of Franklin cars are predicted by Ralph Hamlin. Smith Brothers, Peerless dealers, are still accepting orders for future delivery. The Apperson sedan and Winton Six are other new 1920 offerings arriving west of the Rockies.

Immediate filling of orders is promised on Winton Six, Haynes, Jordan, Cole and Scripps-Booth cars, the last-named to the extent of a limited number of touring cars, according to H. D. Ryus. With the Boulevard Motors Co., handling the Templar, the scarcity is also on certain models; immediate delivery possible on four- and five-passenger cars, thirty-day delivery on touring roadsters. After Dec. 1 the filling of orders on Roamer cars will become reasonably rapid, according to the Wright Motor Car Co. The Western Motors Co. announces a few Kissel models on hand for immediate sale.

LIEUT. ARTHUR K. KLEIN.

One of the comparatively few automobile race drivers to give up the battle for coin on the race course and go into the army was Lieut. Arthur H. Klein. After he returned from France Lieut. Klein signed up with Frank P. Book, the Detroit millionaire, to campaign his race cars. He has shipped Book's three cars, Peugeot, Detroit Special and the Mercedes De Palma used to win the 1915 Indianapolis-500 to Los Angeles and will have charge of the racing of the trio in the winter events.

It is not so difficult, nor hopeless a matter to secure larger allotments from the makers now, as is evidenced in announcements of the Marmon, Cole and Stephens dealers. The Cole dealers, Davidson, House & Meyer report Arizona as an especially good field; in Phoenix they will erect a sales building, a replica of their fine Los Angeles quarters. On Stephens cars shipments are larger now and during the winter will be received in something like appreciable numbers. The Leach Biltwell Co., manufacturers of the Leach Power-Plus Six car, is reaching out distantly from the Coast territory; its cars have found favor in the oil fields of Texas, whence E. P. Hughes, secretary-treasurer of the company, returned recently with an order for 144 cars a year.

Another new car to be produced locally is the Moreland six-cylinder car, backed by a new Moreland company, capitalized at $1,000,000, which will distribute Moreland trucks, cars and tractors through the same distributing organization. The Allen car has reentered Southern California, the agency being taken by the Warmington-Harrison Co.; the Crow-Elkhart will be pushed by the Pico Motor Co.; and the American Beauty Six by Lester & Joberg. Never before represented on the Coast, the Holmes air-cooled car is to be introduced by Rea & Krohn in Southern California. The National agency has changed hands, being now vested in the Rutledge Motor Car Co.

For truck dealers the question of supply and demand is not so acute. Spencer, Morris & Mang, handling the Selden, report urgent demand, but recent large shipments enable them to take care of it. Among the truck dealers who lately announce ability to fill orders are those handling Velie, Jumbo, Transport, Selden and Moreland trucks.

Western Franklin Men Meet.

Representatives, distributors and dealers of the Franklin Automobile Co. in eight Far Western states held their first sales conference at San Francisco, Cal., recently. S. E. Ackerman, sales manager; Hugh Goodhart, of the advertising department; C. S. Andress, of the company's advertising agency; and Ralph Murphy, chief engineer, were present, representing the Syracuse, N. Y., factory.

American Six in North Cal.

The American Balanced Six car, designed by Louis Chevrolet, is to enter the Northern California territory with A. G. Sommerville as distributor in San Francisco. The car was designed some two years ago and is now being produced by the American Motors Co., of Plainfield, N. J., at the rate of 6,000 cars a year.

Take Truck Line in Oregon.

E. J. Jeffery, for the past three years in charge of the truck department of the Manley Auto Co., Portland, and Clyde S. Hanawalt, for ten years a motor car and truck salesman, have incorporated as Jeffery & Hanawalt, Inc., and taken the Oregon distribution of the Kelly-Springfield truck.

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RIDGE ROUTE OPEN TO TRAVEL NOV. 15th

30-Mile Link Over Tehachapi Range Will Soon Be Concreted Entire Distance—Cost More Than Million.

The Ridge Route reopened today. Except for ten miles between Lebec and Rose Station, which is by-passed and will be completed next spring, this route supplies a 20-foot cement concrete way over the Tehachapi Range. This 30-mile link also shortens by 58 miles the inland route between Los Angeles and San Francisco as compared with the Tehachapi pass route and by 24 miles as compared with the Boquet canyon route. It also makes the inland way more competitive with the Coast route, scenically. Chairman Darlington of the State Highway Commission estimates that 1000 motor vehicles will traverse it daily next year.

Owing to the topography, for the present the cement will remain untopped, as no cushioning material has developed which will not "ripple" under the traction of thousands of climbing wheels, and as non-skidding is absolutely necessary. It has no grades over 6 per cent. Fifty per cent of the paving on the ridge is reinforced with twisted iron bars, laid transversely 18 inches apart and bound on each side with rods laid lengthwise. The curves are banked wherever necessary, and are "daylighted"—that is, interfering brush, etc., cut away to enable better and safer views. This is done with inner as well as outer sides of curves. Daylighting, adding guard rails and concrete curbs, will be continued constantly.

The grading of the Ridge Route, involving removal of more than 1,000,000 cubic yards of material, cost $450,000 and paving $700,000.

Anderson Car in No. Cal.

The Anderson Six car, built by the Anderson Motor Co., of Rock Hill, S. C., now has active distributing connections in the San Francisco territory. A. V. Seymour and S. H. Brown have taken the Northern California agency. The Anderson is produced in four different models. The engine is a 40 h.p. Red Seal Continental. Comfortable riding is secured by under-slung and semi-elliptic springs, deep cushions and seats tilted comfortably.

First Bonus to Employes.

Employes of the Greer-Robbins Co., of San Francisco and Los Angeles, recently received their first dividend, this ' ing the first employes' bonus. One and ten months ago, when the was on and automobile production was dwindling steadily to the vanishing point, the company opened its San Francisco branch. In the words of E. W. Milburn, San Francisco, manager, it was "never in red ink," however, and he looks forward to a wonderful future.

Allen Car in Southern California.

The Allen car is to appear extensively in Southern California, the Warmington-Harrison Co. having been appointed distributor by the Allen Motor Co., of Columbus, O. Fifty cars a month is the schedule of delivery to the Los Angeles firm. The Allen is a four-cylinder car, with 110-inch wheelbase. Accessibility of the oil system is a feature in the engine; another is the cylinder head cast separately from the cylinder block.

New Southern Hwy. Reaches Coast.

San Diego, California, is to become the western terminus of another transcontinental highway. This is the Robert E. Lee Highway and is not strictly trans-continental, since its beginning is at Orange, on the Louisiana-Texas state line. It traverses Texas via Beaumont, Houston, San Antonio, Del Rio, Fort Davis to El Paso. Beyond El Paso the established line of the Southern National Highway is followed, being known as the western division of the Robert E. Lee Highway, and leading the motor traveler via Las Cruces, Deming, Lordsburg, N. M.; Clifton, Phoenix, Yuma, Ariz.; and through the Imperial Valley in California to San Diego.

Orders First Native Son Goodyears.

With Douglas Fairbanks everything that emanates from California is unreservedly O. K. He may be prejudiced, but in the Golden State he has found ideal condition for "shooting movies." Moreover, he knows good automobile tires and wants them to come up smiling after a world of punishment. Hence, "Doug" has ordered the first set of Goodyear cord tires to come out of the new California plant of the Goodyear Tire & Rubber Co. He might mount them while doing a hand stand or a few 75-miles-an-hour thrillers on the rim of the Grand Canyon.

Allen Car in Oregon.

The Oregon agency for the four-cylinder Allen car has been taken by the D. C. Warren Motor Car Co., of Portland, Ore. Through its Spokane branch the company will also handle the car in the Eastern Washington territory. Ease of riding, secured by the extra long chassis and well suspended body, and excellent climbing power, as already demonstrated on Portland's numerous hills, are prominent qualities in the Allen car.

Coast Men Link with National Body.

Notable favor is greeting the movement on the Pacific Coast for the enrollment of automobile dealers as "sustaining members" of the National Automobile Dealers' Association. P. H. Greer, of the Greer-Robbins Co., dealer for Chalmers and Hupmobile cars, heads the Association's activities on the Coast. His plea for sustaining members who annually pay $100 in addition to dues of $10 for the same period met with a hearty response.

In Los Angeles, alone, a number of prominent automobile and truck selling firms have already been enrolled: Ralph H. Hamlin, Troy Motor Sales Co., H. L. Arnold, J. W. Leavitt & Co., Lynn Buxton, Moreland Motor Truck Co., Greer-Robbins, Earl C. Anthony, Security Motor Co., Albertson Motor Co., Howard Automobile Co., and the Los Angeles Association of Ford dealers.

Lathan Service for Chevrolet Men.

The Lathan Auto Supply Co., Coast distributors of the Zenith carburetor, have lately perfected plans for a close co-operation with all Chevrolet distributors through the medium of their many sub-distributors of Zenith carburetors located throughout the Coast territory.

This plan will have many advantages to the Chevrolet owner in affording him service in the event that he should have trouble with the Zenith carburetor with which the Chevrolet is equipped at the factory.

This owners' service is to be extended to all the other makes of not only cars, but trucks, tractors and aeroplanes as well, and will prove a valuable asset to the user of a motor equipped with a Zenith.

Dodge Official on Coast.

A. I. Philp, general sales manager for Dodge Brothers Motor Car Co., of Detroit, was a recent visitor in Seattle, where he recuperated from sickness which overtook him on the train. Dodge production is far behind active demand, he states, and has left dealers nothing to work on in the matter of pushing sales.

Stephens Dealers Re-organize.

Distribution of Stephens cars in both western and eastern Washington is to be expanded greatly following the reorganization of Bliss, Gray & Co., Stephens distributors in Seattle. D. E. Ahrens, of Ahrens & Ahrens, of Spokane, handling the Stephens in the Inland Empire territory, becomes vice-president of the Seattle firm, whose name has been changed to Cascade Motor Co. At the same time the Seattle firm's capitalization is largely increased.

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Automobile Show in Pomona.

As a most fitting feature in its recent pageant of progress, automobile dealers of Pomona, Cal., staged a three-day automobile, motor truck and farm tractor show. Under canvas from Oct. 30 to Nov. 1 twenty-six makes of passenger cars, commercial vehicles and tractors were displayed, about sixty-five individual vehicles in all. The floor area given to the show exceeded 26,000 square feet, but even then the exhibits were somewhat crowded.

Attendance at the show totaled some 4,000 persons, although other features of the Pomona fair had their strong attractions. Visitors discovered that some of the finest and newest cars built are now being sent to the Pomona section.

Another Portland Dealer Builds.

The Francis Motor Car Co., of Portland, Ore., has let contracts for a new three-story building to be erected for it at 272 Grand Ave. The building will be 90x95 feet and will cost about $40,000.

Heads Allen Car Sales.

G. H. Steenberg has been appointed sales manager of the Miller-Rector Motor Co., of San Francisco, newly appointed Allen car distributors. He entered the automobile industry in Chicago sixteen years ago. The company has practically completed the organization of its out-of-town dealer connections.

Heads Prest-O-Lite on Coast.

J. M. Noble, of Indianapolis, Ind., has bought the interests of V. T. Combs, with whom he has been associated for more than a year in the General Service Co., of Los Angeles, which handles Prest-O-Lite products on the Pacific Coast. At the same time Combs has been appointed Pacific Coast manager for the Prest-O-Lite Co., with headquarters in San Francisco. A month ago Noble resigned from a fourteen years' connection with the Prest-O-Lite in order to give his entire attention to the General Service Co. and oil interests in the West.

Gill Rings in Seattle.

A branch house in Seattle, Wash., has been opened by the Gill Mfg. Co., of Chicago, to handle the demand for Gill piston rings in the Northwest. R. R. Markley has charge of the Gill Piston Ring Co., Seattle, which is located at 723 E. Pike St., and carries a large stock enabling prompt filling of orders.

Don Lee to Build Extensively.

Returning recently from the annual conference of Cadillac dealers in Detroit, Don Lee, Cadillac dealer for California, announces that six new buildings will be erected in California to meet the needs of Cadillac owners and dealers. The first to be erected will be in San Francisco, Los Angeles and Sacramento.

No further details were given by Lee other than that the San Francisco establishment would be the largest and best equipped in the West. The new structures, he thinks, will be on a scale sufficient to serve the needs of Cadillac business and Cadillac owners for ten years to come.

Great Demand for Diamond Signal.

An especially eager demand during the last two months for its product, the Diamond Stop and Turning Signal, is reported by the Diamond Signal Co., of San Francisco. In mid-September at the height of the rush in California to conform with the provisions of the new traffic law the Diamond Signal was offered to the public. Within a month 15,000 Diamond devices had been sold, according to C. DeWitt De Mar, head of the company. The whole country sent wholesale orders to the San Francisco firm and it was decided that the West Coast must be cared for first and a plant opened in New York City to supply the Eastern demand. One New York dealer asked for 6,000 but had to be ignored.

Porcupine Boots Sell More Widely.

The Porcupine Boot, a successful mileage-increasing device for tires, is manufactured by the Auto Boot Mfg. Co., of Spokane. Lately it has added the making of a new article, the Porcupine Patch for inner tubes, while total production is to be increased several times over. The sales field for Porcupine products has recently been expanded greatly, President F. S. Campbell appointing branches at San Francisco and Minneapolis, which will dispose of 20,000 Porcupine Boots a month.

Du Pont Branch on Coast.

With the opening of a branch of the Nemours Trading Corp. in San Francisco the great Du Pont interests are now directly represented on the Coast. A complete automobile equipment department will be established in addition to the company's other lines of boots and shoes, clothing, dyes and chemicals. The new San Francisco offices and warehouses are at 32 Battery St. in that city.

Rumored From Idaho.

An automobile factory may locate in Pocatello, Idaho, according to recent reports. Headed by H. E. Cove, the company is being promoted by a number of Eastern men. According to the agreement, Pocatello men have advanced some of the necessary capital.

MOTOR TRUCKS TO CARRY CAL. CROPS

Freight-Car Shortage Acute, and Congressman Appeals for Aid for Coast Growers to Move Immense Tonnage.

California has a $350,000,000 fruit crop this year, while its vegetable yield, not yet closely estimated, is yet held to be record-breaking. At the same time shippers of fruit and vegetables are short 30,000 cars in which to move these crops. According to a letter of H. Z. Osborne, Congressman, to J. J. Esch, chairman of the house committee on Interstate and Foreign Commerce. The congressman appealed for aid for Southern California growers after he had been informed of the situation there.

The government itself regards the freight car shortage as critical; Rail Director Walter D. Hines recently issued a bulletin urging car conservation to the limit. Also the use of motor trucks wherever possible.

D. J. Hogan, traffic manager of the California Vegetable Union, with headquarters in Los Angeles, is conducting a desperate struggle to get cars by wire, telephone or mail.

"Members of the California Vegetable Union," says Hogan, "are using motor trucks extensively to move crops especially tomatoes of late. We have to fight for freight cars. Often we have to unload them at one station and truck them to another where 'empties' are available.

"Of course we use trucks to bring crops to the loading stations, but this year we are using them more than ever before. Through motor trucks growers have been saved tens of thousands of dollars."

Some idea of the fruit crop which motor trucks this year will be called upon to do their share in handling is given by the following figures, included in an estimate made by the Santa Fe Railway authorities:

Oranges and lemons	50,000 cars
Peaches	450,000 tons
Apricots	160,000 tons
Prunes	120,000 cars
Pears	110,000 cars
Apples	2,500,000 boxes
Table grapes	20,000 cars
Wine grapes	600,000 tons
Walnuts	25,000 tons
Almonds	6,000 tons
Raisins	200,000 tons
Small fruits, value	$20,000,000
Olives and olive oil	$10,000,000

Western Rubber Branch in Oakland.

The Oakland, Cal., branch of the Western Auto Supply Co. recently opened for business. G. M. Haskins has been transferred from the Los Angeles branch of the organization to manage the Oakland house.

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Combine Nash Wholesale and Retail.

The Pacific Nash Motor Co., of San Francisco, Cal., which for the past two years, has acted as wholesale distributing agency in Northern California for Nash cars and trucks, has taken over the retail agency as well and will hereafter act as exclusive distributor of the Nash lines. The policy of the Nash Motors Co. has been to maintain the close connection of mutual interest with Nash owners and this can best be accomplished through the company's direct agencies.

H. C. Hart, manager, and W. G. Dandy, retail sales manager, head the new retail organization. Hart is a new arrival in San Francisco, but one of the pioneers of Nash service, having had charge of truck sales at the Kenosha, Wis., factory for the past six years. "Bill" Dandy had charge of the San Francisco agency from the time of its foundation in July, 1917, up to the present reorganization.

Represents Kant-Break Plug.

The Kant-Break Spark Plug is now represented in California, Washington and Oregon by William A. Cochran, heading the Kant Break Spark Plug Co., located in the Coulter Bldg., Los Angeles, Cal. Besides the durable qualities indicated by its name the Kant-Break Plug is said to produce a spark ten or twelve times as hot as the old-style plugs.

New Home for Cleveland Dealer.

The sales agency for Cleveland Six cars in Los Angeles is to be housed in a new three-story building containing 70,000 square feet of floor space and located at the southeast corner of Eleventh and Flower Sts. W. P. Herbert, Cleveland dealer, expects to be in his new quarters before the first of the year. The original plan called for a four-story building, but later three stories were decided on, taking in the entire Flower St. frontage and bringing the floor area up to 70,000, instead of the original 62,000 square feet.

Holmes Car Reaches Coast.

The Holmes air-cooled car has entered the Southern California territory, where the sales agency has been taken by Frank Rea and Henry G. Krohn, forming the United Corporation. The new car was designed by an expert on automobile chassis construction and who was for seven years chief engineer of the H. H. Franklin Mfg. Co.

Seven-passenger touring car, roadster and sedan models make up the Holmes line. The engine is of airplane type, with dual exhaust valves, and its non-heating qualities have been demonstrated by the most severe tests. The United Corp. has opened Los Angeles quarters at 831 S. Los Angeles St.

Morelands Shipped Abroad.

The Moreland Motor Truck Co., of Los Angeles, Cal., is building up a flourishing export business in foreign countries bordering the Pacific. Along the west coast of Central America and South America, especially, where the company recently sents its representative, Ted Hobgood, the demand for Moreland trucks has increased by leaps and bounds. At the same time trans-Pacific lands are not being neglected.

The company recently shipped 15 trucks of various sizes to various foreign ports. Lima, Peru, got two trucks; San Salvador, two trucks and two trailers; Managua, in Nicaragua, one dump truck; Hawaii, four; Honduras, two; and Australia, four.

New Heads of Leach Departments.

The Leach-Biltwell Co., of Los Angeles, has appointed W. H. Brashear to manage wholesale sales. Management of the company's Main St. branch in Los Angeles has been put under John B. Dennis, formerly head of a large distributing firm in Kansas City.

Bakersfield Dealers Building.

Bakersfield, California, the city famous for the oil fields that environ it, has seen much building since the first of the year. As builders and leasers of new buildings no other class of tradesmen surpassed the local automotive men. Along Chester Ave., Bakersfield's automobile "row," this year about $300,000 has been spent on new dealer establishments.

Most recently George Elliott, of Cadillac and Oldsmobile selling connections decided to erect a $50,000 building. Other new automobile sales structures nearing completion are those of the Kern County Motor Co.; J. L. Bruce, Buick dealer; and Kitchen & Amell, erecting a building to cost $65,000.

Sales homes that would be a credit to any city in the country have also been completed during 1919 for the Bakersfield Garage, Dodge agency; Paul Derkum, Oldfield tire agent; W. F. Hubbard, cost $30,000; and H. J. Sellers, $8,000.

Flood Tractor in Spokane.

The Washington Architectural Iron and Wire Works, of Spokane, Wash., has been purchased by the Flood Manufacturing Company, and will be utilized for the manufacture of a Ford tractor which will drive and steer on four wheels, according to I. B. Rocketts, secretary of the company. The property is valued at $25,000. The company's activities will be the manufacture of the Flood tractor, converting a Ford into a light tractor and converting trucks into four-wheel drive and steer machines.

Leader Among Spring Makers.

A spring-manufacturing plant that has no rival west of Chicago is claimed by F. J. Laher, head of the Laher Auto Spring Co., of Seattle and Portland, who recently occupied a fine new service building on East Pike St., Seattle. In the Oregon city also a new home is being erected for the firm, and both establishments will carry a total of 15,000 or 20,000 springs in stock. While in an emergency an automobile spring can be made in twenty minutes. Protecting the buyer is a written one-year guarantee against breakage or settling, a provision made by no other spring makers, Laher believes.

New Dealers for Republic Tires.

Republic tires and tubes will be distributed in San Francisco and vicinity by a newly organized firm, the Costello-Ritchie Co. Costello is well known among San Franciscans through his several years' connection with the local Republic branch; Ritchie, his partner, is the same Willie Ritchie who was once a champion in the fistic world. Their territory takes in San Francisco, San Mateo and Marin counties.

Gleason May Represent Line.

E. E. Gleason, know better in the Coast automobile trade as "Pat" Gleason, visited Detroit recently with the idea of securing a commercial line to represent in the California territory. "Pat" was at one time in the Chalmers and Metzger companies together with Wallace C. Hood, now general sales manager of the Standard Motor Truck Co. Lately he has been selling cars on the Coast with San Francisco as his home.

Dixie Flyer Car in Northwest.

The Dixie Flyer car, which has a Dixie-Spillman four-cylinder engine as power-plant, will be distributed in Washington and northern Idaho by Frederick C. Wolfe, of Tacoma, Wash. Wolfe was for many years manager of the Tacoma branch of M. Seller & Co., of Seattle. The Dixie car is manufactured by the Kentucky Wagon Co., of Louisville, Ky., a forty-year old concern.

Body Firm Moves Store.

Breeden & Cole, of San Francisco, makers of Kustombilt car bodies, have moved to new quarters on upper Market St., near Eighth St. The change of location was compelled by rapid growth of business. W. F. Backes, sales manager, will direct activities at the new Market St. sales quarters, while Bernard M. Breeden, head of the firm, will supervise the business generally. P. G. Stewart is superintendent of the Grove St. plant.

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Annual Meeting of C. S. A. A.

The California State Automobile Association held its annual meeting recently in San Francisco, and elected directors for the year 1920. President H. R. Basford presided and detailed the work of the association in the interests of the motoring public.

The report of Secretary D. E. Watkins showed that the association through its good roads bureau has conducted county bond issue campaigns resulting in $13,524,000 being voted for good roads in addition to the $40,000,000 bond issue of the state.

During the last year 150,000 motorists were served in person through the association's main offices and twenty-three branches and 198,300 strip maps distributed. Increase of membership during the year showed a gain of 40 per cent, and of receipts, 59 per cent.

The plan to restore the missions of California was heartily approved. Plans were laid to stimulate travel to Northern California; to co-operate further with the police in campaigns against automobile thieves; and for a further campaign of traffic education and enforcement of traffic laws.

Dorris Car in San Francisco.

The agency for the Dorris Six car has been taken by the H. A. Seller Co., of 1535 Van Ness Ave., San Francisco, with a branch in Fresno. The most outstanding features of the 1920 Dorris are overhead valves, a crankshaft and camshaft with seven main bearings, force-feed lubrication throughout and 10-inch frame.

McAlpin Out For Himself.

Kenneth McAlpin has resigned as accessories department manager of the Eldridge-Buick Co., of Seattle, Wash. He will manage his own business in the same city, the Motor Products Sales Co., handling the wholesale end of the selling of Marvel carburetors, American taximeters, Hayes wire wheels and Purdy gas indicators.

Re-Establish Service on King Cars.

Representation for the King Eight car in a service-giving way in Seattle, Wash., has been resumed with the appointment of A. W. Plympton to act as service representative. The Ruben Motor Car Co., of Portland, Ore., is King car distributor in the Northwest.

Air Spring Makers Incorporate.

The Gruss Air Spring Motor Car Co. has been incorporated in San Francisco. The capital stock is for $250,000. The incorporators are L. R. Gruss, R. L. Gruss, L. Baker, E. E. Carpenter and W. Waters. They have previously manufactured the Gruss air spring under the firm title of Pneumatic Cushion Co.

Testing Top and Tires.

A unique test now in progress is the one that is being made by the Cadillac roadster with body entirely covered with Fabrikoid. In 15 months the car has traveled some 21,000 miles, and has just left Wilmington, Del., for Los Angeles, to return to New York in time for the automobile show in January. The car is being run in all weather conditions, but no attempt at speed is being made. George M. Parris, who is driving the car, is hoping for a perfect tire record from his Goodyear Cords. He has already made the coast-to-coast trip without an instance of tire trouble, and has hopes of making the round trip in similar fashion.

Paige Agency Re-Organizes.

The Paige-Spokane Motors, Inc., of Spokane, Wash., has been reorganized with Mark D. Hawkins as president; Joseph S. McLean, a former insurance man, vice-president and treasurer; M. M. Worcester, secretary; and E. H. Jamieson, service manager. The reorganized company will enlarge its plant by including several adjoining showrooms and additional garage space.

Idaho "Panhandle" Has Some Cars.

Evidencing the popularity of motoring in Kootenai county, in the "panhandle" of Idaho, it may be stated that county receipts from automobile licenses from January 11, 1919, to September 1, 1919, aggregated $18,709.

Fine Chalmers Home in Spokane.

Handling Chalmers cars exclusively, the Logan-Grant Co. has been incorporated for $50,000 in Spokane, Wash. On Second Ave., in that city, a fine new two-story garage will be built 142x55 feet. The heads of the new firm are O. E. Logan, R. H. Grant and W. E. Grant.

Day-Elder Truck in Northwest.

The Day-Elder truck, manufactured in seven models ranging in carrying capacity from three-quarters to five tons, has entered the Seattle territory, where a company formed of local men headed by James H. Goodrich has taken the agency. Dealers have also been appointed in Portland and Spokane, and with a greatly increased production the Day-Elder Motors Corp., of Newark, N. J., plans to make the Coast one of its most valuable territories.

Hart-Parr Tractor in Southland.

The Hart-Parr tractor will be represented in Southern California by a sales and service branch recently opened in Los Angeles. The new representative is the Southern Border Motor Co.

Continues Portland Dealers' Head.

M. O. Wilkins was re-elected for the third time as president and manager of the Dealers' Motor Car Association of Oregon at its annual election in October. Other officers are A. S. Robinson, of the Robinson-Smith Co., vice-president, and J. A. Crittenden, of the Covey Motor Car Co., secretary-treasurer.

Wilkins was further honored by being unanimously selected as manager of the Portland Automobile Show, which will be held next February. He has successfully managed the last two shows held by the Association.

To Denmark for Ford.

George Carlson, traffic expert at the Portland branch of the Ford Motor Co., has been promoted to assistant manager of the new Ford assembly plant at Copenhagen, Denmark. Carlson's proficiency in the Danish and Swedish languages were a factor in his selection.

Hendrie Tire Output Larger.

Production doubled by next spring, is the plan of the Hendrie Rubber Co., of Torrance, Cal. Considerable new machinery has been installed in the company's plant since the first of this year and on the present basis it is curing 280 Hendrie black-tread tires on an eight-hour shift.

S K F Moves L. A. Office.

The Los Angeles office of S K F Industries, Inc., has been moved from 506 Marsh-Strong Bldg., to 1018 Hibernian Bldg., Fourth and Spring Sts., according to a recent announcement made from the company's headquarters in San Francisco.

Plans Solid Tire Plant in L. A.

George T. Bell will build a plant in Los Angeles for the manufacture of solid truck tires. He is now president of the Tire Construction Co. in Los Angeles and has a solid tire factory in Akron, O. The Bell Rubber Co. will be located on Alameda St.

L. A. Apperson Mgr. Resigns.

Although he has resigned as sales manager of the Los Angeles factory branch of the Apperson Motor Car Co., E. W. Johnson has not divorced himself from the Apperson. He is now dealer for the car in Pasadena and has opened quarters on Colorado St.

Jones Car in Washington.

The Jones Six-Sixty car has returned to the Pacific Coast after an absence of nearly two years. For the state of Washington the agency has been secured by the Dragon Motor Car Co., of Seattle, Wash.

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Lincoln Highway in Nevada

Big Automobile Companies Are Aiding the Work of Ironing Out Rough Places in 425-Mile Stretch.

NEVADA is a state nearly half as large as France. Its population is about equal to that of Des Moines, Iowa. Its highway mileage is some 15,000 miles. The Lincoln Highway runs for 425 miles across the state and the Lincoln Highway Association has always realized that outside aid was essential to bring about the prompt improvement of the many bad road stretches across the state.

By the end of next year, however, it is expected that there will be few spots on the Lincoln Highway through Nevada which will cause tourist traffic the slightest difficulty.

On the Lincoln Highway between the towns of Ely and Carson City, a distance of 348 miles, are found the real barriers of bad roads. Some of the sections of these roads caused the recent Motor Transport convoy its greatest difficulties on the trans-continental run. Between Ely and Carson City it is mostly natural desert road, improved in spots by county funds. Some sections are very good, but eight sections, totaling 65 miles, were selected by the Lincoln Highway Association and the Nevada state highway authorities as being urgently in need of prompt improvement.

For the improvement of the Highway through Nevada the Association had a fund of $120,000; of this, $100,000 was contribution of the General Motors Co. and $20,000 a part of the $50,000 contribution of the Willys-Overland Co. A total of $425,000 for road improvement between Ely and Carson City has been given by the Association, the state of Nevada and the Federal Government.

Five sections of road to be improved come under the General Motors contribution of $63,000 for their improvement. First there is the famous Fallon Sink, in Churchill county, a 17.3 mile stretch to be improved at a cost of $125,000. The five-mile stretch of Frenchman Station Mud Flats will be improved for $50,000; and a very rough 15-mile stretch between Eastgate and Westgate, for $105,000. These three sections are to be completed if possible in 1920 and not later than July 1, 1921. The Federal Government has allowed $140,000.

The two Willys-Overland sections to be built at a cost of $145,000 consist of a bad section of 5 miles between Eureka and Hay Ranch, in Eureka county, and a distance of 21.7 miles of new road to be built in White Pine county, eliminating about 8 miles over the present trail. Both of these sections must be completed by 1920, according to the contract between the state and the Association.

Contracts for the completion of the other three sections of road have not been entered into owing to the state's inability to let more road contracts at present. It will require the utmost effort on the part of the state to bring about the improvement of these sections within the time specified.

There has been in the past some controversy in Nevada and Northern California as to the correctness of the route chosen for the Lincoln Highway from Salt Lake City to the Nevada state capital and the California line, but the selection of the Highway for the first trans-continental army convoy run and its establishment as the first military

A PORTION OF COMPLETED ROUTE NEAR WADSWORTH, EAST OF RENO, GIVES IDEA OF CHARACTER OF WORK DONE.

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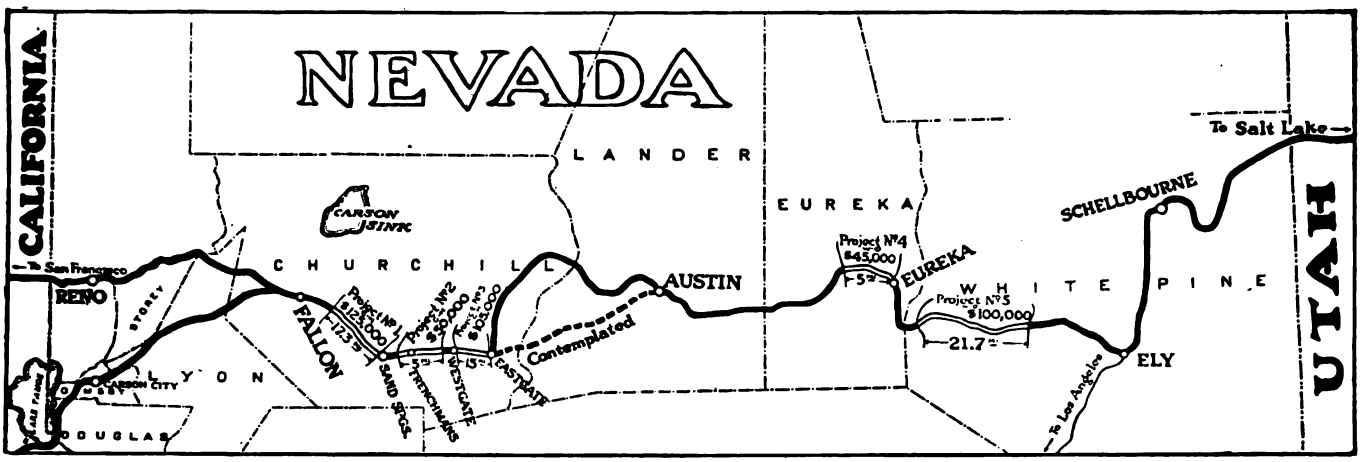

MAP OF LINCOLN HIGHWAY IN NEVADA. SECTIONS IN PARALLEL LINES ARE TO BE IMPROVED WITH FUNDS FURNISHED BY GENERAL MOTORS AND WILLYS-OVERLAND COMPANIES.

trans-continental route have served to indicate the correctness of the Association's original decision.

To date the Lincoln Highway Association has raised and given to the states of Utah and Nevada for Lincoln Highway improvement a total of $203,000 in cash. This, with the aid of the Federal Government, is resulting in $600,000 worth of improvement between Salt Lake City and California. This all means a better road to the Pacific Coast.

The two sections of the Lincoln Highway in Utah through Fisher Pass and over the Great American Desert, whose construction is being financed by the Goodyear Tire & Rubber Co., F. A. Seiberling and Carl G. Fisher, cannot be put into final shape before next spring, it now appears. The dedication of the Goodyear cut-off by the Utah state governor has therefore been postponed indefinitely.

The great natural difficulties of building a proper road through Fisher Pass and across the desert have been increased by the bad weather experienced in western Utah this fall. The state has also been disappointed in not receiving the war trucks which were to have been given by the War Department and which would be used in graveling the Goodyear section.

The entire grade for 17½ miles across the great Lake Bonneville flat near the Nevada state line has been completed, but the work of graveling cannot be finished in time to allow the road to be opened this fall.

Most of the road work through Fisher Pass has been completed and the building of the road between the Pass and the Goodyear section is now under way. Working westward, the new state highway has been pushed across Skull Valley to within five miles of Orr's Ranch.

The entire Seiberling and Goodyear fund of $100,000 and the $25,000 contributed by Carl G. Fisher, vice-president of the Lincoln Highway Association, has been expended. According to agreement with the Association the state has appropriated an additional $55,000 for completing both jobs.

Activities of California Highway Commission

Frequent petitions are presented to the California Highway Commission for permission to cut down the trees on the State highway, where property owners allege the said trees shade their land, or cut off their view, etc. The Commission's policy in such matters is to consider the larger interests of the public and to preserve, not only the trees, but all other landmarks that make the highways attractive and traveling a pleasure. An Irvine, Orange County, man has recently been advised by the Commission that his petition to chop down certain eucalyptus trees in front of his property on the State highway is denied, for the reason that such trees are considered an enhancement of the beauty of the State highway and their removal is contrary to the policy of the Commission.

The Commission is finding it necessary and expedient to establish its own rock-crushing plants at strategic points for road construction and maintenance purposes. The army trucks, allotted by the War Department to this state, supply the means for the distribution of the crushed rock from these plants at a minimum cost.

Two numerously signed petitions were recently filed with the Commission, asking for a diversion of the Coast road. One would change the route between Oxnard and Santa Monica to the northeastward and farther inland. Another would change the route to run through the Santa Monica Mountains via Triunfo and Topango Canyons. After a thorough investigation of these proposed locations, the Commission unanimously decided that neither of these routes are desirable, that they are respectively 12 and 21 miles longer than the present Coast location, and the cost would be much in excess of the cost of the latter route. Further the Commission declares that the grades on the proposed inland routes are much greater than on the Coast location, and that the said Coast location is in conformity with the intent and spirit of the original State Highways Act, which calls for the location of State highways by the most direct and practicable routes.

Calendar of Coming Events

Nov. 27—Thanksgiving Day Race, Ascot Park, Los Angeles, Cal.

Dec. 29.—Ascot Park, Los Angeles, Fifty-Mile Race.

Jan. 3-10, 1920—New York National Automobile Shows (Passenger Cars and Trucks).

Jan. 8—First Aeronautical Exposition, Chicago, Ill.; auspices Manufacturers Aircraft Assn.

Jan. 21-25—Spokane, Wash., Second Progressive Automobile Show.

Jan. 24-31—Chicago National Automobile Shows (Passenger Cars and Trucks).

Feb.—Seattle, Wash., Annual Automobile Show.

Feb. 9-14—Kansas City, Mo., National Tractor Show (auspices Kansas City Tractor Club).

Feb. 21-28—Fourth Annual Pacific Automobile Show, Auditorium, San Francisco, Cal.

Feb. 22—Beverly Hills Speedway, Los Angeles, Cal., Opening Event.

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Motor West
THE MOTORING AUTHORITY OF THE PACIFIC COAST

Established 1907
AN ILLUSTRATED AUTOMOBILE MAGAZINE OF QUALITY, ISSUED SEMI-MONTHLY.

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NOVEMBER 15, 1919

How Britain's Rail Strike Was Broken

THE Associated Press and newspapers generally did not visualize a very important transportation fact which recently transpired in England. This is a brief of the story as Premier Lloyd George told it:

The Government knew, six months before the great railway strike, that it was being fomented by revolutionary agencies which hoped to overturn the Government by crippling the country's traffic. Quiet preparations were made to meet the blow. When it came, it caused tremendous inconvenience and misery, but it failed of its purpose and soon the strike failed.

The Government **had mobilized motor truck transportation.** The country, being small and equipped with good roads, thus enabled the defeat of what was intended to be something far more serious than a railway strike.

Secretary of War Baker has inquired into this country's preparedness in similar respect, with particular reference to the coal strike. He was informed that 20,000 army motor trucks would be available and that about 200,000 in commercial use could be commandeered the country over in an emergency.

Comparisons of our case and that of England suggests that, while our distances are far greater and our supply of motor trucks relatively smaller, our populations also are more scattered and more self-dependent. The remarkable fact would be the same here as it was there—the fact of the motor truck's indispensability.

Comes Now the "Rolling Market"

FEW of those in their prime today remember when their grandfathers, of no matter what station in life, carried the family basket to market without dropping their dignity. The vegetable, meat and ice wagons came later—and now that markets have practically gone out and prices have gone a-soaring and the motor truck has **begun to ramify** its usefulness, comes again the "roll-**in** **the relief** of producer and consumer alike.

by New York City's commissioner of markets that farmers, singly or co-operatively, use motor trucks and trailers to bring their fresh wares direct to the city curbs. If this is possible in a city practically surrounded by water and badly congested, surely it will be so in cities more accessible from the country.

Experts declare that 50 per cent of farm products go to waste by the distributing methods now in use, not to mention the waste of growers' and consumers' money by diversion into the pocket of the middleman. Add to this the quite possible reduction in cost due to freedom from store rents, and the idea looks most attractive. It is already being done to a considerable degree by means of trucks. Using trailers would increase its value greatly. The idea is being pushed into public notice admirably by the Firestone Ship-by-Truck Bureau, through its branches in 63 of the largest cities in the country.

To Study the West at Last

COLUMBIA UNIVERSITY, in New York City, has announced a course entitled "Features of American National Parks," the aim of which will be to prepare rangers, guides and other qualified persons as intelligent interpreters of national park scenery. It is stated that this is significant of popular demand and that it will stimulate much western trade.

A close student of history has traced the tendency, begun long before the American Revolution, of the more thickly populated sections of a country to "look down" upon the less populated parts. To this he ascribes the lack of foresight by which federal aid for building roads and for agricultural extensions is apportioned on a ratio basis which is not merely unfair to the West but unprofitable to the East in the long run. To this he ascribes the absurd condition that, in a western state like Nevada, extremely rich in agricultural possibilities, Uncle Sam "owns" 78 per cent of the land, pays no taxes, lends no hand, virtually, in developing resources; throws the burden on the struggling few who own the 10 per cent.

Such a condition is due to ignorance. Some commercial men of the East know it. There are many similar circumstances which are closely related to commerce—to the getting of orders. Those who know this are stepping ahead of the mass and doing two things, in automotive lines—getting good representatives on the Pacific Coast, who understand their field; and advertising in "Motor West," which understands and is understood by its field as no so-called national journal is or possibly could be.

Rates Not Raised by Motor Carriers

EXPENSES of all kinds have increased, and transportation by rail costs the public more, but for some reason rates of motor truck operators have not risen noticeably. Perhaps one reason is that this form of transportation is relatively new. Its promoters, seeking business, compete somewhat on a price basis. Later, of course, this will change. The fact is that motor truck transportation has not yet "found" itself; has not settled into standardized methods. The time is coming when motor truck traffic experts will become highly developed, highly paid, and highly profitable investments for their employers. Their expertness may well include knowledge of all costs, such as fuel, lubrication, wear, kinds of freight, the best and shortest routes, and the fairest rates. They will do much to solve the return-load problem.

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Newspaper Man Wrestles with Geometry

ALL things can be made clear. It is not always done in the most scientific circles. Mark Twain once said to a deep friend, who was elucidating something: "No use, old man, the plainer you make it the less I grasp it."

Speed is essential among newspaper men. The stuff is needed early, and besides, it is an everlasting grind—get through it quickly, is the word. One recently tackled the tractor hitch problem, his material being facts and illustrations from a university man's article. Reproducing the pictures, ye grinder reduced the few words in effect to the statement that the problem is clearly open to geometric proof or solving by graphic statics. To properly bring home the advantages, or disadvantages of types of design, he said, the matter of the relation of the tractor to its load through the drawbar connection cannot logically be discussed in any other way. It is a well known principle of mechanics that one force, or one force and a couple, may be found which will produce the same effect as a number of forces. In addition to this, due consideration must be given to Newton's Third Law, viz., "Action and reaction are equal and opposite."

Having thus digested and rearranged a digest and rearrangement of facts which had been made by the university man, the newspaper man got to the end of his rope and let it dangle at that.

Let him live. He has rendered a service. He has made something perfectly clear and easy to understand.

Bear in Mind the Steel Tire's Whack-Whack

THERE is much talk about making the roads motor truck roads, to withstand the coming avalanche of motor trucks. Rightly so. No use building anything weakly. To do it right is good business. To do it wrong is throwing away money.

But don't get a wrong impression. Already there is a fallacious idea that there is no limit to the taxes and restrictive legislation which makers, sellers and users of automobiles, including motor trucks, can bear. Not only must this idea be toned down, but it must be realized, the sooner the better, that the motor truck is a get-there, capacious commercial carrier, not primarily a destroyer of roads.

Turn your attention to the vehicles which have metal tires. The continual grind and whack-whack, as they pass over the highways, do much more damage through friction and concussion than the heavier but more smoothly-running motor trucks, especially those with air tires.

Note the fact that the City Council of New Orleans has required that all heavy vehicles be equipped with rubber tires. The draymen, who form an important business factor in that city of many steamboat landings, protested but obeyed. Then the lumbermen protested that it would cost them thousands of dollars! Odds fish! How about the profit of rubber tires, and the cost of metal tires to all people who pay for the roads?

Skidding Time is Here, so S. L. L.

ONE cannot have everything. The Pacific Coast revels in the most glorious climate, or climates, in the world. It is all one, yet it is several, with not much choice between them as to excellence; all free from the miserable slush and freezing winter rigors of the Mid-west and East. Yet, we do and must have rain. Therefore, skidding time is here—so stop, look, listen, when on your way from hither to yon, over the smooth-as-glass thoroughfares, with corners just around which may be others who are not, as they should be, stopping, looking and listening.

Talk Up This Uniform Law Matter

BE CO-OPERATIVE. Talk about matters like the adoption of uniform motor truck legislation. Talk to your local editor about it. He don't know everything. Much that he knows he learns from the people about him. The more he learns in that way the better editor he becomes; the more useful in his community.

The best type of roadway costs much money to build. It should be able to bear heavy loads. Yet it should not be abused. It is economy to fix reasonable maximum limits of size and weight of motor trucks. Besides, uniformity means cheaper production; less expense to manufacturers and users alike.

Very careful study, especially by the American Automobile Association, has shown that it would be well if all vehicles were limited to a height of 13 feet, width of 8 feet and weight of 800 pounds per inch of tire. The crushing strength of concrete pavements averages 3600 pounds per square inch. The 800-pound limit therefore gives a factor of safety of nearly 4, which is desirable.

Lack of co-operation already has resulted in some states enacting motor truck legislation which is wrong. Massachusetts and several other states have adopted the limits described. Measures incorporating these limits will be introduced in many states. Help have your state one of those in which uniformity, safety and economy, not to mention greatly enhanced commerce, will be thus served.

Even Better than Cost Accounting

COST ACCOUNTS should be kept; but they are records of results. It is more important to note and use data which will fatten those results. Much better that we on the Pacific Coast note and use figures showing how many motorists are coming from the East, and driving back, than merely to privately record our transactions with them.

Like creates like. Tourists in evidence create more tourists. Road conditions and other factors are secondary. This is a suggestion that all Pacific Coast automobile organizations get, and use, data like this:

At Springerville, Ariz., on the National Old Trails route, which is signposted all the way from the East, 4116 automobiles were checked, passing westward, since January 1. The actual number was about 15 per cent larger. In one day, 51 passed toward the Coast. At Albuquerque, approximately 3000 passed westward over the same route and more than 2100 passed eastward, it being estimated that more than 6000 will pass that point both ways, during the year. At Gallup, N. M., 1200 passed westward since February, and 750 eastward.

Reading such facts, others will tour, and are likely to tour the same route. The moral for those interested in other routes, and in promoting touring by any route to this Coast, is obvious.

Lemuel Loosehead says: Dust makes a clutch grabby and jerky, 'n' it does the same to human bein's. Keep a-going 'n' keep lubricated, but not too lubricated.

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"Farm-to-Table" Movement

Week of November 15-22 Set Aside for Demonstrating Advantages of Scheme in Combating H. C. of L.

THROUGH the combined efforts of the various agencies of the automobile industry, every farming community on the Pacific Coast will be asked to be prepared for the cavalcades of city motorists who are expected to take advantage of "Farm-to-Table" week, officially set for November 15-22.

The country roadside market at this time is expected to prove itself a means of combating the high cost of living. The movement has the active support of hundreds of automobile clubs and scores of manufacturers of motor cars and their dealers, as well as state and national granges. Producers will be asked to post bulletin boards along the roadside announcing the fact that they have for sale butter, eggs, turkeys, chickens, potatoes, apples, squash, cabbage, carrots, etc., and to have ample supplies of their wares on sale at roadside markets. Likewise every available medium will be employed to appraise the motorist of the unusual opportunities offered him during the week.

The week of November 15-22 was selected because of its close proximity to Thanksgiving Day, when farm produce is in greater demand than ordinarily. The season is ideal because of the abundance of farm and dairy products during late November.

Thousands of Coast farmers have found roadside markets generously patronized by city motorists, and the resulting sales have been a source of considerable profit to them. Foodstuffs and produce that ordinarily rotted due to lack of time and transportation facilities have been turned into cash.

But roadside markets have been the exception rather than the rule. This tremendous field of distribution has been barely scratched. Tons and tons of foodstuffs are now in the hands of American farmers that will perish unless the city man with a motor car comes to the rescue. "Farm-to-Table" week is confidently expected by its promoters to move thousands of tons of food. Furthermore, it will point out to both farmer and city man the economy of the roadside market and suggest to him that this method be employed from early spring until late fall. The campaign is expected to have a decided educational value.

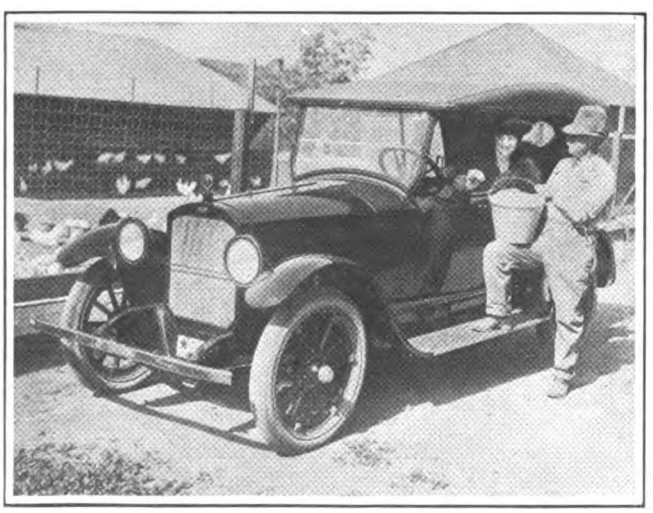
The cry in the city and in industrial centers throughout the Pacific Coast territory is for more and cheaper food. The automobile is the only solution. It makes next-door neighbors of the farmer and city man. Every community should be awake to the advantage of this quick means of communication and transportation between city and farm. There is need for extensive education to both the producer and the consumer.

The possibilities of bringing down food prices by the truck patch-to-consumer route are enormous. Bigger demands of the farmer are certain to result in greater production, and ample supply will mean a drop in prices.

The absence of roadside markets in Pacific Coast states is not so pronounced as in Eastern localities, but in consideration of the excellent boulevards and other touring advantages a large number of these markets could be supported. On highways where traffic is not heavy farmers find it impracticable to maintain a stand. Where this condition exists the erection of a signboard on which to advertise produce and prices would prove of great benefit both to farmer and motorist. Without these signboards motorists find it necessary to stop and inquire at several farm houses before they find the farm product which they desire. This needless waste of motorists' and farmers' time would be obviated by the signboard.

The signboard also suggests to the motorist the practical economy of purchasing direct from the producer, especially when the price is set opposite the product which the farmer has for sale.

—ALONG WITH A LOT OF FRUIT AND GARDEN SASS.



"HEN-FRUIT" DIRECT FROM PRODUCER TO CONSUMER

The success of "Farm-to-Table" week depends upon the spirit in which the motorist accepts it. If the motorist takes advantage of this opportunity, the farmer will be encouraged to continue offering his products for sale at the farm and instead of one week being designated for this movement it will become a year-round affair.

To Raymond Beck, who served the government as engineer during the war and who is now occupying his former position as chief of the National Touring Bureau of the B. F. Goodrich Rubber Co., goes the credit for conceiving the idea of the "Farm-to-Table" week.

Polishing plug points pays profits.

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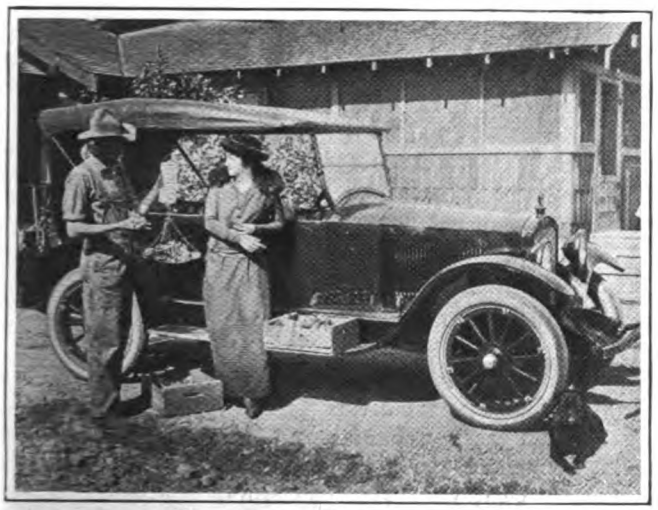
Safety Campaign Growing

Information Issued by National Council Includes Co-operative Plan Suggested by St. Louis Grand Jury

A GREAT WAVE of alarm evidently is sweeping over the country, as a result of the rapidly increasing number of persons killed and maimed in automobile accidents, according to a statement issued by headquarters of the National Safety Council in Chicago.

Some drastic repressive measures have been adopted against motorists. In Chicago, automobile speeders are taken on slow trips through morgues. In Youngstown,

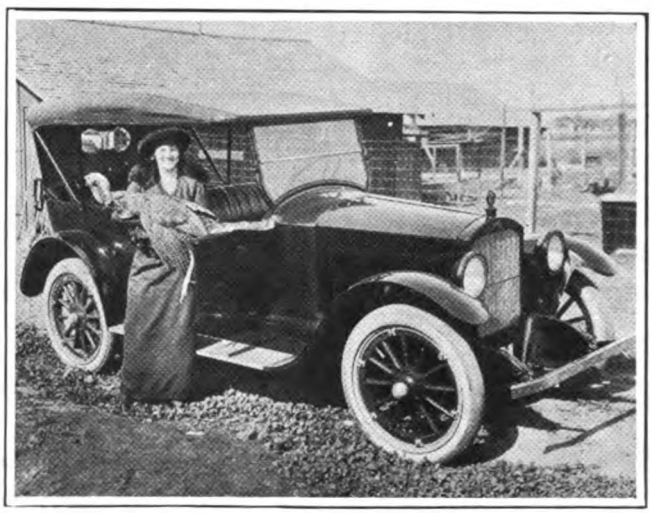


STRING BEANS BY THE POUND FRESH FROM THE GARDEN

O., speeders are sentenced to watch beside the body of the person killed, or at the hospital bedside if the victim is injured. In New York the police keep a "rogues" gallery for traffic law offenders, and in Chicago a plan to photograph and finger-print chauffeurs has been proposed.

St. Louis, Cleveland, Rochester, Detroit and a number of other cities are conducting an intense contest for the title "Safest City in America," and in St. Louis a most unusual report was made by a very unusual grand jury, which disregarded several ethical precedents in getting data, as a result of which it recommended, among other things, that additional motorcycle and traffic officers be employed, and that all other police officers make report of all traffic violations; one-way traffic on certain streets; pedestrians to cross streets only at crossings; newspaper publicity regarding activities of safety-promoting associations, co-operation of general public in reporting traffic violations; importance of safety to be set forth regularly in churches, schools and homes; passage of a law requiring employed person driving a motor vehicle to pass an official examination before a board which shall have cognizance of all matters making for the safety of the public, and which shall issue certificates to those who qualify; and the creation of a board to inspect at intervals all motor vehicles.

The report of the St. Louis grand jury shows that its members were convinced that mere punishment accomplishes little, but that something was wrong in the whole structure of the traffic handling problem and that co-operative effort by all concerned is needed to remedy it.



—AND A BIG THANKSGIVING BIRD, TO TOP OFF LOAD.

The Boy Scouts have entered into the work of accident prevention, by example, advice and otherwise. These 350,000 red-blooded young fellows can do much. A daily safety manual for their guidance is in preparation and will be incorporated in their regular manual.

Of interest in connection with the countrywide movement being fostered by the National Safety Council is the fact, shown in the November 10 issue of the Pacific Electric Magazine, published by the employes of the Pacific Electric Railway, that in October the number of accidents due to collisions with vehicles (mostly automobiles, of course) was 32 per cent greater than in the same month last year, there having been 231 such collisions during last month. It is also remembered that in one city alone, Los Angeles, in May, June and July, 1919, there were nearly 5000 accidents in which automobiles were involved, and that 21 persons were killed.

The Pacific Electric report was also interesting in showing an increase in October last, as compared with the same month a year ago, of 46.2 per cent in collisions and interference with trolley cars; a decrease of 50 per cent in the number of persons struck by cars, and a 12 per cent decrease in the number injured getting on and off cars. The figures indicate that pedestrians are becoming far more careful and that drivers are becoming far more careless.

The Pacific Electric must be commended for its efforts towards safety, by means of watchmen, wig-wag signals and other devices. For their own sakes, it seems to be up to automobilists to do their part.

Thanksgiving Day Race at Ascot Park

Horse racing, motorcycle racing and automobile racing and some safety and gravitation-defying performances by airplanes will make up a four-day program at Ascot Park, Los Angeles, extending over Thanksgiving Day. The big motor feature will be the annual Thanksgiving Day race.

This year the Ascot track will have some notable drivers and there will be at least a dozen drivers starting, according to Chairman George R. Bentel. Among the first entries are Arthur H. Klein, Roscoe Searles, Eddie Hearne and Cliff Durant. Hearne won the recent 100-mile race at Phoenix, Ariz. Omar Toft and Waldo Stein, the latter driving Barney Oldfield's car, are also fairly certain entries. Joe Boyer took in the recent Phoenix race and has shipped his three cars to the Coast. A Hudson will also be entered by Nicholson, who comes from the East.

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More Federal Aid for West

Statistics Reveal Great Importance of Ideas Included in Proposed Substitute for Townsend Highway Bill.

NATIONAL highways are a national necessity of the first magnitude—highways paralleling our borders and forming the margin for a rectangular interlacement of routes spread over the great interior of the United States; highways for commerce and for national defense, adapted to motor truck traffic of unrestricted capacity.

It is generally agreed that the first procedure, before undertaking the work of actual accomplishment, should be the creation of a National Department of Highways. To effect this several measures have been proposed for adoption.

The advocates of some of these measures have made frequent and wide-spread appeals for suggestions as to substitution, or improvement, or remedy for their confessed shortcomings. The appeal has been heeded in California and a measure will be presented to serve all three of the purposes suggested.

Briefly outlined this measure will possess all the good features of the Townsend Bill and will eliminate all the objectionable ones. In addition it will offer the following undeniable advantages:

It will afford the people whose welfare is most directly affected by national highways the fullest expression possible of voice and sentiment as to the location and distribution of such highways.

It will enable people surrounded and affected by widely differing environments the fullest opportunity to satisfy their own peculiar requirements.

It will not in any sense suggest a paternalistic invasion of State prerogatives.

It will not ask for a surrender of right of way or any other State possession or privilege.

It will not disturb any of the existing highway departments in any material degree in any State.

On the contrary the National Department of Highways while exercising a general supervisory control will by its sympathetic co-operation and co-ordination assist and strengthen the highway administration of every State.

It will assist those great States which are handicapped by their lack in density of population.

It will aid those States which are discriminated against because of the obstructive effects of an absentee ownership, exempted from every obligation, of parts of its area in some instances of enormous extent.

Look at Nevada. Who can consistently say that Nevada has not contributed far more than its full proportionate share to the upbuilding of the American commonwealth? If such there be, mark him as one who by bigotry or ignorance is unduly prejudiced against the great realm lying west of the Rocky Mountains, comprising almost one half of the area of this Republic and more than one-half of its richest undeveloped resources—the Pacific Slope.

One has only to read the history of Nevada, and make note of the wealth it has poured into the nation's lap, to ascertain where it properly belongs in the roll call of States.

Look at Wyoming, Arizona, Montana, New Mexico, Idaho, Utah, Oregon and a half score more of the great States which lie west of the Mississippi and which share in the handicap of scant population and absentee ownership, so excessively borne by Nevada.

Are these great States to be penalized for the prowess, the energy and the high intelligence displayed by those who are the pathfinders for national progress? We think not. Not when true conditions are known and understood and when the American spirit of fair play is invoked.

Few will be found possessed of the hardihood to deny to the States named in the subjoined tabulation, the modicum of further Federal assistance to which, as shown by facts and figures they are justly entitled and which the measure to be proposed will specify and endeavor to consummate.

There are some interesting facts revealed by examination of statistical data pertaining to highways.

The greatest density of State population exists in Rhode Island, 508.5 people to the square mile. Next comes Massachusetts with 418.8 to the square mile; then comes New Jersey with 337.7 to the square mile.

Massachusetts has an area of 5,290,240 acres. Nevada has an area of 70,841,600 acres, and there are five other western States larger than Nevada. Massachusetts as stated, has 418.8 people to the square mile. Nevada has .7 of a person to the square mile.

Massachusetts under the Federal Aid Road Act has an appropriation of $1,107,764.25.

Nevada under the same Act has $965,974.50.

For her remissness in population she is only mulcted $141,789.50, which considering extent of her backwardness, is getting off easy. These isolated examples are mentioned merely as incidental items of interest.

There are certain truths concerning the great domain which lies west of the Rocky Mountains, that need to be driven into the attention of the people of the east with sledge hammer force.

The highway situation west of the Rockies is every whit as important as that which lies to the east thereof,—and possibly more so.

States with population lower than the National Average of 30.9 per square mile,—and States with parts of area unreserved, unappropriated, nonproductive and idle, held by the United States exempt from State jurisdiction.	Average number of inhabitants per square mile according to Census of 1910.	Number of inhabitants per square mile less than the National Average of 30.9.	Percentage of State areas now held by the United States. *
Michigan	48.9	.....	1—
Missouri	47.9	.....	1—
Wisconsin	42.2	.....	1—
Alabama	41.7	.....	1—
Mississippi	38.8	.....	1—
Louisiana	36.5	.....	1—
Arkansas	30.	.9	1—
Minnesota	25.7	5.2	1—
Maine	24.8	6.1	0.
Oklahoma	23.9	7.	1—
Kansas	20.7	10.2	1—
Washington	17.1	13.8	2+
Nebraska	15.5	15.4	1—
California	15.3	15.6	20+
Texas	14.8	16.1	0.
Florida	13.7	17.2	1—
No. Dakota	8.2	22.7	1—
Colorado	7.7	23.2	15+
So. Dakota	7.6	23.3	1+
Oregon	7.	23.9	23+
Utah	4.5	26.4	59+
Idaho	3.9	27.	24+
New Mexico	2.7	28.2	24+
Montana	2.6	28.3	8+
Arizona	1.8	29.1	29+
Wyoming	1.5	29.4	40+
Nevada	.7	30.2	78+

*1— indicates less than 1 per cent.

NOTE—Authority for above is Government Statistics. For verification consult: U. S. 13th Census Report (1910); Report of Commissioner of General Land Office to June 30, 1918, Department of Interior, and Summary of the Federal Aid Road Act of July 11, 1916, presented by Mr. Bankhead, September 7, 1916.

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THE easiest and quickest way to repair leaks in radiators, pumps, hose connections, etc., is with Johnson's Radiator Cement. It will stop leaks immediately without laying up the car—no mechanical experience required—all you have to do is remove the cap and pour the Radiator Cement in the radiator.

JOHNSON'S RADIATOR CEMENT

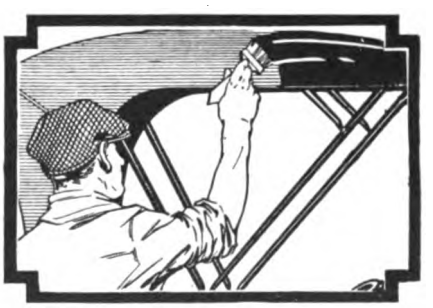
Contains nothing which can clog or coat the cooling system and is absolutely harmless in every respect. It blends perfectly with the water until it reaches the leaks. Just as soon as it comes in contact with the air it forms a hard, tough, pressure-resisting substance which is insoluble in water and consequently makes a permanent seal. No tool kit complete without a can of Johnson's Radiator Cement. Will ordinarily seal leaks in two to ten minutes. A half-pint is sufficient for the average car.

JOHNSON'S
CARBON REMOVER

A dose of Johnson's Carbon Remover, the engine laxative, will cure 80% of engine troubles. It will increase the power of your car—improve acceleration—stop that knock—quiet your motor—save your batteries—cut down your repair bills—and reduce your gas and oil consumption.

JOHNSON'S
HASTEE PATCH

This is the ideal repair for tubes, casings and rubber goods of all kinds. No time, labor or heat required. A patch can be applied in three minutes and it's so simple a child can use it. Gives equally good results on a pin hole puncture or on a large blowout. Conveniently put up in strips.



JOHNSON'S
BLACK-LAC

With this preparation you can make your gray, dusty top and side curtains look like new. Fine for mohair, leather or imitation leather. Johnson's Black-Lac is unequalled for blackening fenders, rims, hoods, lamps—and, in fact, all worn metal parts. Prevents rust and keeps your car in a high state of repair.

Write for Booklet on "Keeping Cars Young"—it's free.

S. C. JOHNSON & SON, Dept. M. W. 11, Racine, Wisconsin

For sale by all Hardware and Accessory Dealers and Garages

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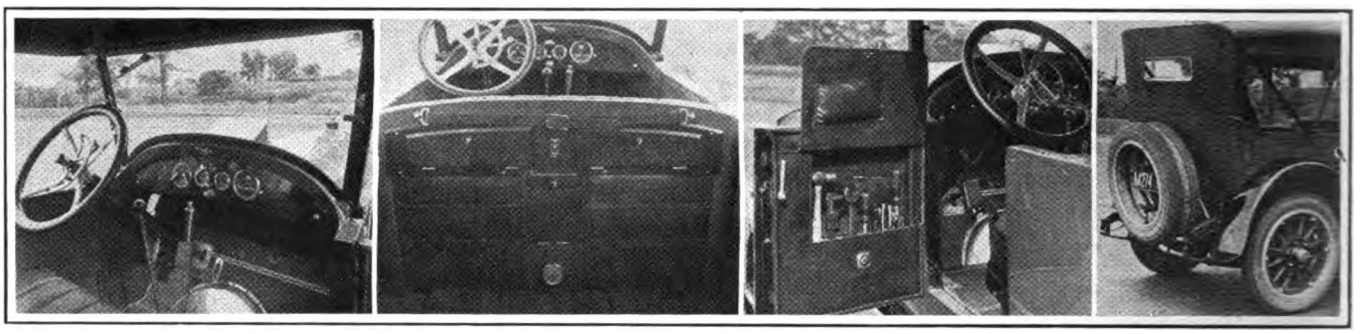


NATIONAL SEXTET NICETIES (Left to right)—Walnut instrument board, nickeled instruments, windshield cleaner, and everything. Tonneau with three "cubby-holes" is electrically lighted. Left front door has lock-fitted tool compartment. No tank visible at rear, and double tire carrier.

National Sextet Niceties

New Model is Characterized by Many Refinements of Design and Equipment, Making for Passenger Comfort.

A NEW MODEL of remarkable beauty of line and ability in performance, christened the National Sextet, is announced by the National Motor Car & Vehicle Corporation. It is a six with an improved overhead valve engine with a power output and performance out of all proportion to its size. The bore and stroke of the engine are only 3½x5¼ inches, yet it develops 71 horsepower at 2600 R.P.M., showing the remarkable gain of 57.8% over the previous six built by the National company of the same size. Above all, the engine is characterized by an ability to resist wear and to survive the hardest runs without injury.

But this article does not deal with the many angles of mechanical perfection apparent in the new model, but with those refinements of design which make for the safety, comfort and pleasure of those who are fortunate enough to travel in this new National, which was illustrated in "Motor West" of November 1st. A neat refinement in the chassis is found in an apron over the gas tank at the rear that conceals this unsightly object, with its usual covering of greasy dust, from view. The capacity of the tank is 18 gallons, including a 1½-gallon emergency tank that is controlled by a small valve on the front of the rear seat. With this device it is impossible to run out of gasoline on the road.

Following European practice, the body is low hung, with deep sides and unusually large doors. A combination of curves and sharp edges is employed to give an unusually pleasing effect from any angle that the body may be viewed.

A striking feature of the body, and one that contributes materially to its distinctive character, is the shape and contour of the front fenders, which are of the individual type, closely hugging the wheel, and independent of the running board. Both front and rear fenders are deeply domed, with flawless contour.

Squeaks and rattles are eliminated by a new and advanced method of body mounting, giving exceptional strength and solidity. Also this device permits the lowering of the bodies several inches, contributing to their fleetness of line.

The 130 inches of wheel-base give ample room to seat seven passengers comfortably, with plenty of knee room in front of the auxiliary seats. The position and angle of the seat cushions is such as to permit the occupants to recline naturally, and the upholstering leaves nothing to be desired, the open models being finished in genuine black leather, and the closed models in a special gray automobile cloth. Unusually long gear-shift and brake levers are additional contributions to driving comfort.

A veritable host of refinements and niceties is incorporated in the car's construction, from the individually shaped front lamps, with separate auxiliary lamps underneath for city driving, to the Yale-locked double tire carrier at the rear.

The front compartment reflects the glint of polished walnut and aluminum, with a hooded ventilator on the top of the cowl that floods the interior of the compartment with a stream of fresh air. The ventilator is regulated by a small crank above the instrument board within handy reach.

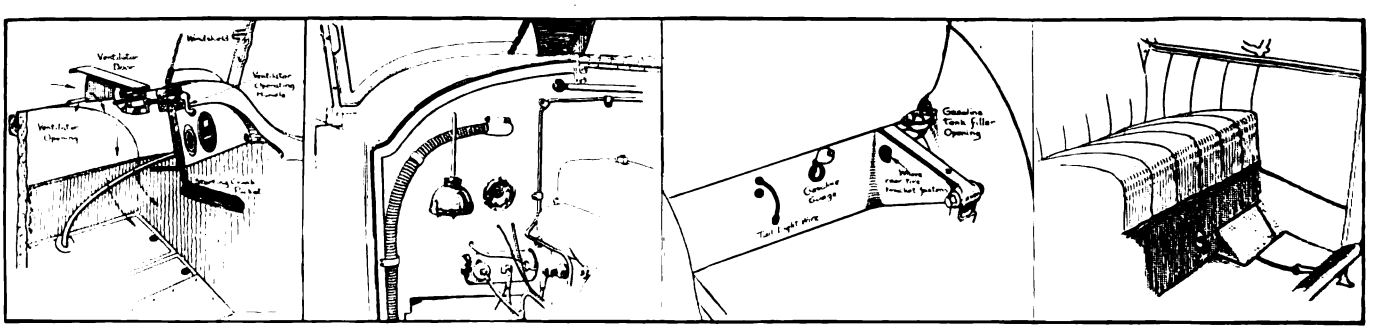
The forward panel of the rear compartment is finished in walnut also, with three small lockers suitable for carrying gloves, veils, goggles and other articles of value. The auxiliary seats disappear into recesses at the bottom of the panel.

All doors are provided with capacious pockets for the storage of maps, clothes brushes or other articles of touring use, with the exception of the left front door, which contains a built-in and lock-fitted tool compartment.

Standard equipment for the car includes many unusual items, such as a motometer, windshield cleaner, Hartford shock absorbers both front and rear, engine-driven tire pump, transmission theft lock, large size electric Warner 70-mile-an-hour speedometer, one-man top, lined inside, with glass rear window, cord tires and a screw jack of a new and improved type.

Only the seven-passenger model is now being built, but the car will be available in five custom body styles—seven-passenger touring, $3150; four-passenger phaeton, $3150; two-passenger roadster, $3150; four-passenger coupe, $4200, and seven-passenger sedan, $4250.

If a metal washer rattles, put a leather washer under it.



SOME MORE SEXTET NOVELTIES (Left to right)—Nickel-plated crank on dash controls hooded ventilator on cowl. A light under hood, convenient for night inspection. Sheet steel apron conceals gas tank, with gauge visible through sliding cone. Emergency tank, 1½ gallons, under rear seat.

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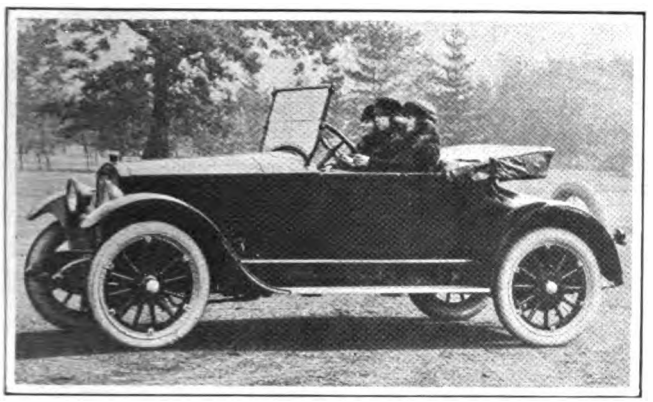


COMFORT THE KEYNOTE OF CLEVELAND LIGHT SIX ROADSTER.

The Cleveland Light Six Roadster is now well into production and these cars are going forward rapidly from the plant of the Cleveland Automobile Company in Cleveland, Ohio, to dealers throughout the Pacific Coast territory. The car seats three persons comfortably. Its invitingly wide seat is placed at just the right angle and there is plenty of leg room for even the tallest person. Ample storage space for parcels and luggage is provided for. Back of the seat is a large compartment which opens from the top. A partition separates this from a large space under the rear deck. This partition is hinged and easily let down, enabling the motorist to store baggage under the deck. There is no door on the outside of this deck and hence dirt and moisture cannot enter nor can a rattle develop from a loose deck door. Tools are carried beneath the cushions.

Mexico City Has New Perils

Reckless motor vehicle drivers are what pedestrians and other vehicles in Mexico City have to dodge now, instead of the machine-gun bullets of yore. Wildly speeding camiones, or small omnibuses, claim victims daily and make riding and walking a hazardous pursuit. Hospitals are reported as treating an average of 20 automobile accident victims each day and lately the newspapers have taken notice and begun an anti-speeder crusade.

Take the corner slowly. It pays.

Ayer's Fiftieth Anniversary

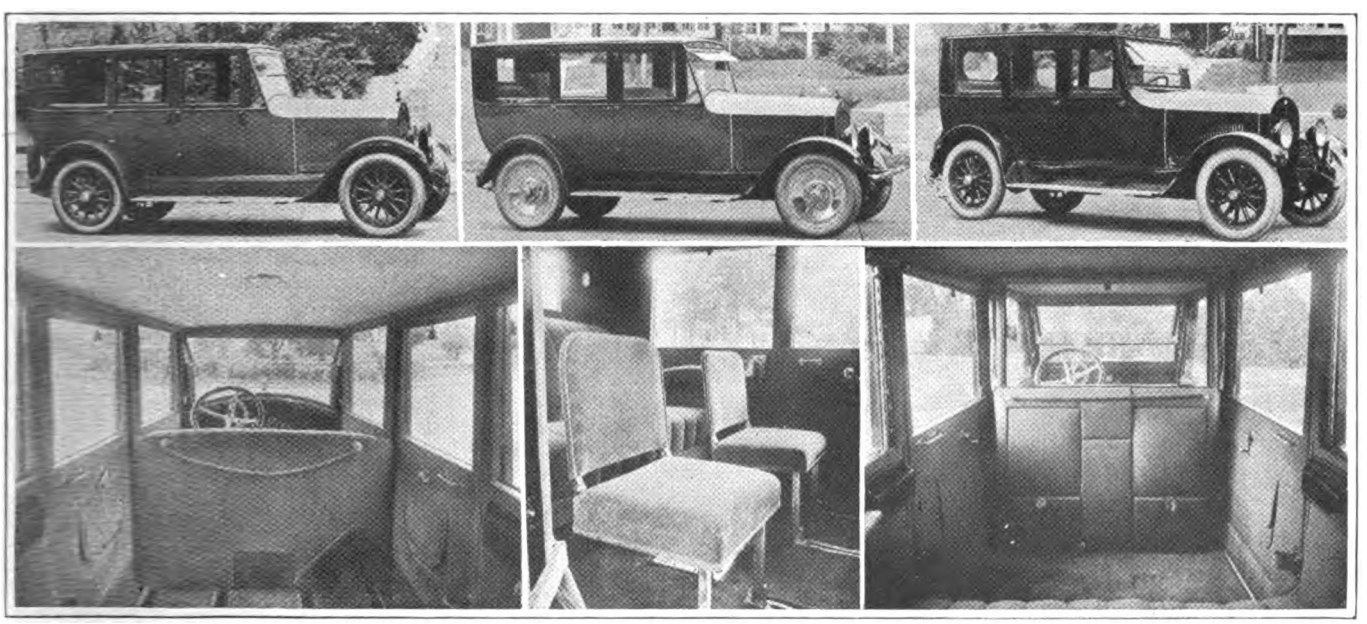
"The Book of the Golden Celebration"—deckel-edged pages of parchment-like paper within chaste brown covers—chronicles the function held April 4 at the Hotel Bellevue-Stratford, Philadelphia, commemorating the fiftieth anniversary of the founding of the house of N. W. Ayer & Son, the veteran advertising agency.

The dinner was opened and closed by F. Wayland Ayer. Addresses were made by William Howard Taft; Lafayette Young, editor The Capital, Des Moines; Edward Bok, editor Ladies' Home Journal; Miss C. E. Mason, LL. M., of Miss Mason's School for Girls; N. C. Kingsbury, vice-president American Telephone and Telegraph Co.; Edward S. Jordan, president Jordan Motor Car Co., and William M. Armstead, of N. W. Ayer & Son.

The book was not received until a few days ago. Time does not dim the vividness of the utterances which it sets forth in dignified type. Mr. Jordan's talk, for instance—it is recorded in only twenty-seven lines, typical of the clarity and incisiveness of the man whose ads have stirred the automobile world. He paid this tribute to Ayer, the founder: "The ideals of business morality for which this man fought alone in the days of his youth have altered the spirit and practice of American commerce."

Superiority of American Magnetos

The reliability of a magneto is determined by its form of construction and the material and labor put into it. The efficiency of a magneto depends upon its electrical design. In this respect the magnetos made by the American manufacturers have a world-wide reputation, representing the highest type of workmanship, and are recognized throughout the world as unequaled for electrical efficiency. The continuous, "no-worry" and efficient service they render is worth more than they cost. When choosing a new car it is well to know that many of the best cars are providing for optional ignition so that a purchaser may have his preference.



COLE CLOSED CARS CHARACTERIZED BY CONVENIENCES THAT CATER TO THE COMFORT OF THE COMPANY'S CLIENTELE.

The Tourosine, the Toursedan, and the Sportosine, the three latest all-season models announced by the Cole Motor Car Co. reveal a completeness of accessories and appointments which gratifies the tastes of fastidious motorists. Extreme luxury and comfort are their dominating characteristics. An autophone makes it possible for those riding in the tonneau to instantly communicate their wishes to the driver. In the tonneau are found also a neat smoking set and a vanity case. A heater is installed in the floor which can be regulated to furnish the proper amount of warmth to keep the interior of the car comfortably snug. Two corner lights, controlled by a switch in a convenient reach of the occupants of the rear seat, and a dome light, which is illuminated automatically with the opening of the rear doors, furnish the lighting suited to the varied demands of all seasons.

Automatic window regulators are installed throughout. The rear glasses are equipped with a new type of counterbalanced regulator that can be operated without even arising from the rear seat. The regulators at the other panels are so arranged as to lock the windows in place, either when completely lowered or raised to their extreme height.

The arrangements of the auxiliary chairs in the Toursedan and Tourosine is novel and neat. These, when not in use, are housed in a compact space at the base of the front seats, and are completely out of view. When raised into position, they lock securely into place and possess the same rigidity and comfort as the spacious tonneau seat.

In the Sportosine a glass partition between the front and rear compartments, operated by an automatic regulator, makes this car instantly convertible from a sedan to a limousine. The Tourosine is designed especially for the motorist who desires a luxurious chauffeur-driven, seven-passenger enclosed conveyance. Like the Sportosine, it can be changed at will into either a formal limousine or a family sedan by means of the the adjustable glass partition. In the Toursedan the front compartment has been designed so that those who occupy it will enjoy equal comfort with those in the tonneau.

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Good Roads Lower Costs

Haulage Varies From 9c Per Ton-Mile in East to 29c in Rockies—Horse-Drawn Minimum, 22c

(By E. A. WILLIAMS, Pres. Garford Motor Truck Co.)

THE day is not far distant when motor trucks will operate over highways built solely with that purpose in view. When that day comes, motor truck transportation will have reached its height.

The one big thing the war did for the motor truck was to provide it with an opportunity to prove its universal worth as a transportation factor. In other words, the war accelerated its general adoption in the commercial field. It is commerce and industry, not war, that concerns us today.

All about us are evidences of the utility of the motor truck. Each day sees the motor truck entering a new field of endeavor. Horses, oxen, elephants, camels or men are being replaced by motor trucks in every country of the world. Motor transportation by truck has not only proven itself more practical, but more economical than the older means.

The Department of Agriculture estimates that for the year 1918 motor truck hauls from farm to shipping points averaged 11.3 miles, while wagon hauls averaged 9 miles. The motor trucks made 3.4 round trips per day over the 11.3 miles, while wagons made but 1.2 trips per day over the 9-mile route.

The average cost per ton by the horse-drawn vehicles was 30 cents per mile for wheat, 33 cents for corn and 48 cents for cotton. The truck haulage per ton-mile averaged 15 cents for wheat and corn and 18 cents for cotton. In several states the cost of transporting wheat was as low as 9 cents per ton-mile, while the lowest cost by wagon is estimated at 22 cents per ton-mile. Quite a saving there, without taking into consideration the value of time saved and the economy in labor.

The figures compiled by the Government show definitely the importance good roads play in the reduction of costs. For instance, in the East North Central States, which boast miles of improved highway, the cost of haulage by truck was but 9 cents per mile in 1918. In the New England States, the Middle Atlantic States and the West North Central States the cost was 14 cents. The cost increased to 18 cents in the South Atlantic States, where there are a limited number of improved roads, and to 29 cents in the Rocky Mountain district, where, of course, the grades effect all means of transportation.

Contrasted with these figures are those showing the costs of hauling by horse-drawn vehicles. In the East South Central section the cost is 36 cents per ton-mile, more than three times the cost by truck. In the South Atlantic States it is 39 cents, more than twice as much as by motor. In the Rocky Mountain district the cost reaches 42 cents, 13 cents more than the truck costs.

The average cost of hauling by truck in New York is 14 cents per ton-mile, according to last year's figures. The cost by wagon is estimated at about 30 cents. There is a difference of 16 cents on each ton per mile. In a year the saving would run into an enormous amount.

Indianapolis leads all other centers in transportation of hogs by truck. This may be attributed to a great extent to the fact that it is the hub of a system of improved roads. During the last year 462,313 hogs were received in Indianapolis against 271,994 in 1917; 173,191 in 1916, and 96,591 in 1914. Indications are, according to reports from the Hoosier capital, that 1919 will see the mark reach 600,000. This does not include cattle and other live stock.

There are no figures at hand which will show the comparative cost of transporting live stock by motor truck and by wagon, but it may be taken for granted that the average differences which prevail in the transportation of wheat will prevail here also. The greater number of trips possible with the truck and the time-saving alone is proof enough that it is more economical.

But to get into the future of transportation by truck. It is not necessary to state that it is a factor as yet only in the early stages of development. True there are numerous truck trains, rural express routes and inter-city routes operating in communities throughout the United States. Haulage concerns, alive to the situation, have amalgamated to reduce the possibilities of idle trucks, light return loads and to render improved service to patrons. Many commercial houses and manufacturing plants are operating private lines. The postoffice department has inaugurated parcel post routes. But we may yet say that the motor truck has not even approached the height of its possibilities as a transportation factor.

The building of roads will control to a certain extent the immediate future of motor truck transportation. Good roads are essential to the most efficient results. They are just as important to motor truck transportation as good railroads are to railroad transportation. We have the rolling stock for motor truck transportation. The modern trucks have proved their ability to stand up. They are built for poor roads and to meet the most trying conditions. And they are making good under these conditions. What wouldn't they accomplish if they were aided by better roads?

Moreland Declares Extra Dividend

The Moreland Motor Truck Co. has just declared an extra cash dividend in addition to the regular quarterly dividend. Moreland quarterly dividends have been regular for a number of years, and this extra cash dividend shows the healthy condition of this nine-year-old Western company.

The Moreland company will shortly move its entire manufacturing organization and the wholesale selling department to Burbank, Cal., where worth-while progress is already being made on the factory buildings.

Napoleon Motors Opens Export Office in N. Y.

The Napoleon Motor Co., Traverse City, Mich., has opened an export office at 100 Broad St., New York City. The office will be in the direct charge of the American Motors Co. The export business of this company is growing by leaps and bounds.

Commerce Truck Prices Higher

The Commerce Motor Car Co., of Detroit, Mich., increased the prices on all models of Commerce trucks on Nov. 1. The 1 to 1½-ton truck with solid tires is increased $90. The 1 to 1½-ton truck with pneumatic tires is $100 higher. The 2-ton pneumatic is increased $70.

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Get This Truck's Record Is All We Ask

We honestly believe that no business house, in its own interest, can afford to buy any truck without fully informing itself about the Gramm-Bernstein.

It should know, for example, that there exists a distinct preference for this truck among experienced buyers.

It should know, also, that this preference—which, by the way, is enjoying a very healthy growth—is a perfectly logical development.

It should know that Gramm-Bernstein owners are genuinely satisfied.

Our owners will testify that a Gramm-Bernstein lasts literally for years.

That operating upkeep and repair costs are extraordinarily low—and especially so in ratio to the service the truck renders.

And that when they need another truck, or more trucks, their choice is invariably the Gramm-Bernstein.

These things are important to a prospective truck-buyer.

They are important to us, for they tend to confirm our belief that the Gramm-Bernstein represents the soundest truck engineering practice in America.

This belief is based on something more than a truck-building experience now rapidly approaching 20 years.

It is based on Gramm-Bernstein records and performance.

It is strengthened by the fact that Gramm-Bernstein features were adopted bodily for the Army's trucks, and that they had long before proved themselves practical and successful.

Gramm-Bernstein engineering finds its latest expression in our new 5-ton truck, which has already had a test equalling two years' ordinary travel of a 5-ton vehicle.

We ask no business to buy our trucks on our say-so—though that is a perfectly safe thing to do.

Gramm-Bernstein performance and service are matters of record. Any one of our dealers will place the facts before you, and put you in touch with our owners.

The most we ask is that you get the complete information.

Gramm-Bernstein Worm-Drive Trucks, in 1½, 2, 2½, 3½ and 5-ton capacities, are now sold completely equipped, ready for the body—not an extra to buy.

The Gramm-Bernstein transmission is completely trouble-proof. It is actually a basic superiority. Careless driving, hard work, cannot possibly harm it.

The gears are always in mesh. They are never shifted, never ground, never clashed. Speed changes are made through patented dog clutches.

Gears and clutches are progressively assembled on a heavy six-spline shaft and can never get out of alignment. Not a pin, bolt, nut, set-screw, stud or key, which might work loose, fall out, and possibly damage the entire gear set, is used in the gear assembly.

All Gramm-Bernstein Transmissions are provided with a pad for attaching Gramm's Basic Patent Power Take-off. Dealers and truck owners should assure themselves that any trucks purchased with power take-off do not infringe B. A. Gramm's Basic Patent No. 1194994.

The Gramm-Bernstein Motor Truck Co., Lima, Ohio, U. S. A.

Pioneers Since 1901—Builders of the First Liberty (U. S. A.) Truck

F. B. CLARK, Pacific Coast District Sales Manager, Room 401, No. 143 Second St., San Francisco, Cal.

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Motor Trucks as Railroad Branches

According to R. E. Fulton, vice-president of the International Motor Co., manufacturers of Mack trucks, the former spirit of competition between the railroads and the motor truck is gradually turning to a spirit of co-operation. The present serious financial condition of the railroads and the increased freight rates that will inevitably follow, together with the economic advantages of the motor truck, point to a very favorable effect on the prices of foodstuffs as a result of that co-operation.

The use of trucks as feeders to the railroads up to a distance of 100 miles will release their facilities for the increasing tonnage that requires long-distance haulage. It has been specifically proven that because of the duplication of handling in railroad transportation, goods can be shipped on short hauls more economically by motor truck. In a few years the truck will be the standard method of short-distance hauling. By acting as a feeder within a radius of terminals, it will provide the railroads with an increased tonnage and assist in making complete delivery, since it will penetrate areas that are now without transportation facilities.

The Big Four freight houses in Cincinnati have set the example. Two motor truck chassis and about ten bodies were used with tremendous success in relieving the railroads of a large tonnage of short-haul traffic. Branch stations received the bodies, which were filled and loaded on the chassis. On a fixed schedule, they were brought to the terminals and their contents transferred to through cars. Under the old system, cars had to be sent to each of the branch stations and brought to the terminal by the engine, seldom more than a quarter filled.

The advantages of this plan over the old extravagant methods are so vivid that other large cities throughout the United States are realizing the tremendous potentialities of the truck as a feeder to the railroads, and are establishing similar systems.

The time will come when each and every motor truck that operates within a 50-mile radius of large cities will be in effect a branch line of that railroad. The reason for this is that a railroad requires an immense initial investment for right of way, grading, bridges and rails, and is limited in the amount of traffic it will hold. If such a branch line does not pay for itself, it cannot be diverted. On the other hand, a motor truck route has no limitations and can easily be transferred to a more profitable route if one does not prove successful.

Gaskets cut from asbestos board, soaked in water and rubbed with graphite, are best for packing exhaust pipe joints.

How Drivers Can Help Maintain Good Roads

According to Alfred F. Masury, chief engineer of the International Motor Co., manufacturers of Mack trucks, drivers can do as much, almost, for the maintenance of good roads as highway engineers.

Did you ever notice, in going up a hill, particularly one paved with asphaltic concrete, that the surface on the right side of the road is wavy and rough, while that on the left side is smooth?

Well, the reason is this: The extra traction required to climb the hill wears and tears the surface, while there is little or no traction down hill.

Another thing, the right-hand track of the road in either direction is the one which is worn most. This is because of the arched surface of the road which throws the greater weight and strain on the right side of the vehicle and consequently the right side of the roadway. Truck builders and wagon makers have even adjusted their axles and springs so as to withstand the greater strain on the right side of the vehicle.

The custom of arching the roadways was formed in the early days of road-making when dirt and porous-surfaced roads were the ones mostly in use, and it was necessary to give sufficient pitch to the surface of the roadway to drain off the water and prevent it from penetrating the surface of the road to soften and weaken the roadbed. With modern water-tight surfaces, the necessity for arched roads does not exist.

Drivers can prevent wear to the surfaces of the roads and even improve their conditions, of instead of driving in one track or on the edge of the road, they will drive over the middle and other less used parts of the roads when traffic permits. The one thing that is fatal above all things to road surfaces, whether dirt or paved, is driving in tracks, which subjects one small part of the road surface to all the traffic and damage that the whole road accommodates. Traffic should be evenly distributed over the entire surface of the road, and a little thoughtfulness and care in this respect on the part of drivers will do much to add to the permanence and excellence of our roadways.

Patriot Truck Takes Two Prizes at Once

A Patriot truck belonging to Mr. Marshall of Chelsea, Kan., was eligible for two prizes in the contest held recently when it was driven 50 miles with a load of 150 bushels, consuming three hours and fifty minutes and using five gallons of gasoline and one quart of oil. Owing to the fact that one of the rules prohibited one truck from taking more than one prize, however, the judges awarded Mr. Marshall the one for largest load.

HITCHING A POWER WAGON TO THE STARS—A VERITABLE CONSTELLATION OF THE CINEMA VARIETY.

It wasn't absolutely necessary that the Paramount-Arteraft beauties appearing in the screen version of "Everywoman" use a big motor truck upon which to pose for a photograph. But as Irv Cobb says, "You know how women are," and once they had made up their minds to drape their feminine loveliness over a modern highway freighter they had their way. They appealed to a Los Angeles truck dealer to furnish the props. He took one glance at the cast and capitulated completely. Being human, he lost no time in providing a White truck for the photographic process, with the pleasing result herewith pictured.

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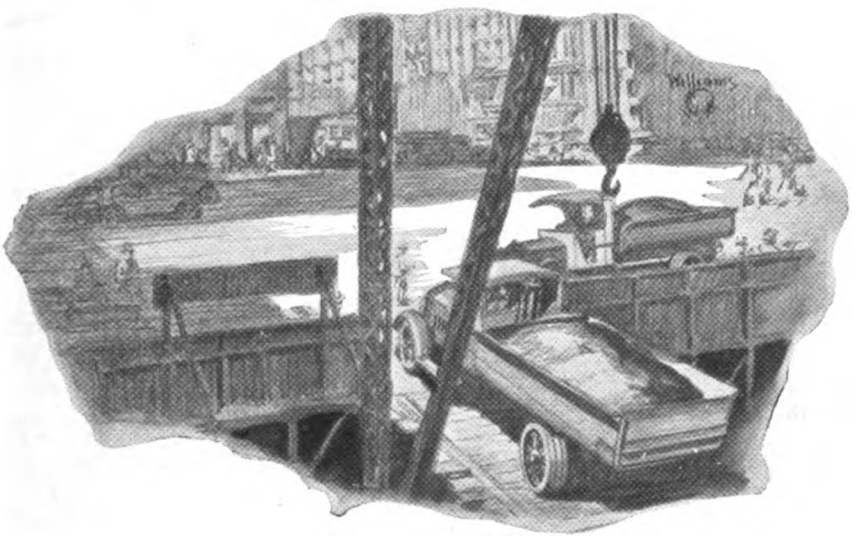

You can't get away from the fact that 60,000 Republic Trucks have been bought by shrewd, sensible business men. Among them will be found a solid conviction that their trucks are not equalled—in *performance*, in *ruggedness*, in *economy*. In six years, this preference—based solely on the wonderful Republic record—has made this company the largest manufacturer of motor trucks in the world.

REPUBLIC TRUCKS

Republic Motor Truck Co. Inc., 941 Michigan Avenue, Alma, Michigan

REPUBLIC Yellow Chassis TRUCKS

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Out of the Crucible of War Needs Pours Approval of the

Wilson dependable MOTOR TRUCKS

EIGHTEEN months before the massed engineering brains of the automotive industry evolved the Class B Army motor truck, acknowledged to be the world's best truck; Wilson engineers designed and placed in production the 3½ and 5 ton Wilson.

After the Class B truck was manufactured it was found that in 22 distinct instances Wilson engineers and the War Department engineering force agreed in essentials, which demonstrates the pleasing fact that the Wilson design anticipated the trend of the best engineering practice, by a year and a half.

The points of similarity are briefly summarized below:

Motor, Axles** (worm drive), **Transmission, Radiator, Brakes, Load Distribution, Wheel Base, Frame, Clutch, Drive and Propeller Shafts, Springs, Spring Clips, Steering, Control, Hotchkiss Drive, Artillery Type Wheels, Dash, Fenders, Seat, Gasoline Feed, and other minor points.

Folder showing in detail these various features will be sent on request.

In addition to this compliment paid by the leading automotive engineers of America to Wilson design, by concurring in practically every major thought of Wilson engineers, the actual experience of Army officers with Wilson trucks makes interesting reading. We have prepared a little booklet showing what the Army actually thought of the Wilson trucks in the service of Uncle Sam and a copy is free for the asking.

YOU know the Wilson truck is a good one.

NOW is the time to find out if you can get the selling franchise in your territory.

Wire or write the factory today.

1½—2—3½ and 5 Ton Models—All Worm Drive

J. C. WILSON COMPANY, Detroit, U. S. A.

Western Sales Mgr., HARRY F. HEARD, 1806 W. Adams St., Los Angeles, Cal.

36th Year

COMMERCIAL VEHICLE MANUFACTURERS

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The Motor Truck bought to-day without Electric Starting and Lighting will be out of date to-morrow

BETHLEHEM
Internal Gear Drive MOTOR TRUCKS
Dependable Delivery

BETHLEHEM MOTORS CORP'N. ALLENTOWN, PA.

The Motor Truck bought to-day without Electric Starting and Lighting will be out of date to-morrow

Visualize the Selling Possibilities of the Bethlehem Line—

A complete line with utmost value per cost dollar, backed by the closest kind of factory co-operation and a gigantic advertising campaign that is getting results.

Bethlehem Dealer Prosperity is nationwide. It is founded on Bethlehem Performance.

Is your territory open?

1½ Ton Chassis	2½ Ton Chassis	3½ Ton Chassis
$1965	$2365	$3465

F. O. B. Allentown, Pa.

BETHLEHEM MOTORS CORPORATION
ALLENTOWN, PA.

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Truck Saves Five Freight Handlings

According to A. C. Burch, vice-president and general sales manager of the Clyde Cars Co., Clyde, O., all of the arguments as to the relative merits of shipment by truck as against shipment by railroad seem to be on the side of the motor truck.

One advantage generally overlooked is that the motor truck eliminates at least five handlings to which goods shipped by railroad must be subjected. These are:

1. From factory or warehouse to freight station.
2. Loading from freight station or truck to cars.
3. Unloading at destination from cars to trucks or freight station.
4. Unloading from trucks to stores, factories or warehouses.
5. Handling, in case the goods are removed from car to freight station and held until consignee sends a motor truck to remove them.

In railroad transport better packing is necessary. An additional expense has to be incurred for boxing, crating or protecting by other means in order to prevent loss or damage.

A general traffic manager holds that one of the principal savings consequent to the use of the motor truck is in lumber and other material, and the great amount of labor required for boxing.

Apex Truck Builders Double Factory Space

The Hamilton Motors Co., Grand Haven, Mich., has doubled its factory capacity by occupying twice as much space as the company had formerly occupied. The Hamilton Motors Co. was formerly the Panhard Motors Co., and its product is now Apex trucks. The new Apex factory, adjoining the old factory at Grand Haven, has just been occupied and gives the company a capacity twice that of the old plant.

This increase has been due in large measure to the quick growth of export business of the Hamilton Motors Co., to handle which business it has been found necessary to open the company's own export office in New York, in charge of C. B. Rice, who has had much experience in this line of work.

It will be remembered that at the request of the Panhard Levasser Co., of Paris, France, the Panhard Motors Co. decided to relinquish the name Panhard and return to the former name, Hamilton Motors Co., altering the name of the truck to Apex.

Willys Buys Into Republic Motor Truck Co.

John N. Willys and the Willys interests have bought controlling interest in the Republic Motor Truck Co., Alma, Mich., said to be the largest exclusively motor truck manufacturer in the country; capitalized at $1,000,000 and turning out more than 1200 trucks monthly. It is announced there will be no change in personnel.

The company was organized in 1913 and a large factory was built at Alma, the floor space exceeding 900,000 square feet. It began selling trucks in July, 1913, and its sales have exceeded 60,000 trucks of four sizes, from 1 to 3½ tons. In addition to its $1,000,000 capital stock the company has outstanding 100,000 shares of common without par value. Its president is F. W. Ruggles; vice-president, C. A. Burt.

For some time Mr. Willys has held controlling interest in the Garford, made in Ohio.

OVERLOADING HURTS YOUR TRUCK.

You buy motor trucks on a dollar-for-dollar basis, and you should get the greatest value for each dollar you invest. You are not doing this when you ask your truck to do more than it is built to do. It may do it for a time, and for a long time, but when you use it for loads above its rated capacity, you are in some measure abusing it, and Old Man Depreciation will soon be riding with you.

—E. T. Herbig, Sales Mgr. Service Motor Truck Co., Wabash, Ind.

Motor Transport Training Schools of the Army

The United States Army is definitely launched in the field of vocational training for the Motor Transport Corps. It has no option in the matter, for men skilled in automotive vehicle operation and repair do not exist in anything like adequate numbers for the requirements even of civil life; and the war with Germany has demonstrated that no matter how good our army may be in other respects, its efficiency will be conditioned by that of the motor transport branch.

Therefore, the army is organizing schools to train men in the various branches of automobile repair, construction and operation. They are real schools under trained teachers where the time of the pupil is wholly devoted to receiving instruction.

Apart from the military necessity, the automotive industries will benefit by the establishment of this training system.

The United States Civil Service Commission is receiving applications to fill 150 positions of assistant instructor in motor transport training schools. The entrance salaries range from $1,800 to $2,400 a year. Detailed information may be obtained from the U. S. Civil Service Commission, Washington, D. C., or from the secretary of the U. S. Civil Service Board at the post office or custom house in any city.

Militor Motors Buys Knox Motors Plant

The plant of the Knox Motors Co., Springfield, Mass., has been sold to Neil R. Sinclair, of New York, president of the Militor Motors Corporation. In disposing of the plant, the Knox Motors Co. reserves the right to use a part of the buildings for its needs for a period of two years.

The Knox Motors Co. has been identified with the motor industry since its infancy and will continue the manufacture of its present products as well as parts for its former models at the Springfield plant. It is understood that the company has plans under consideration which will increase and round out its present lines.

Truck Sales Managers Hold Two-Day Convention

At the two-day convention, in Detroit, November 7-8, of the National Association of Motor Truck Sales Managers, the following papers were read and discussed: "Eliminating the Trade-in Evil," by J. W. Allen of New York; "Practical Method of Determining Values of Used Motor Trucks," by H. H. Schuart, secretary of the Detroit Automobile Dealers' Association; "Selling the Farmers and Operators Rural Motor Express Lines," by F. W. Fenn, secretary Motor Truck Committee, National Automobile Chamber of Commerce, New York; "Effect of Pneumatic Tires on Truck Sales," by C. A. Wales of Bridgeport, Ct.; "Prohibititve Licensing or Taxing of Motor Trucks and Motor Truck Legislation, Generally," by Alfred Reeves, general manager National Automobile Chamber of Commerce, New York; "Attitude of Banks Towards Financing Motor Trucks for Dealer and Retail Purchaser," by Charles R. Talbot, vice-president National Bank of Commerce, Detroit; "Good Trade Practices," by A. J. Whipple, Chicago; "Vocational Mediums for Motor Truck Advertising," L. D. Dudley, Federal Motor Truck Company, Detroit; "Should Trucks Be Manufactured and Sold Completely Equipped?" by A. E. Schafer, Lima, O.

Prosperity in Evidence at Stewart Plant

At a meeting of the board of directors of the Stewart Motor Corp., Buffalo, N. Y., makers of Stewart trucks, which was held Nov. 1, the regular quarterly dividend of 2 per cent on the preferred stock was ordered paid, also a 2½ per cent dividend on the common stock. The rapid growth which the Stewart has enjoyed since the company was incorporated seven years ago has necessitated the acquisition of larger quarters, and the new 9-acre plant recently purchased is now in full operation. The progressive assembly system is used in the new factory and will make possible a yearly production of 10,000 trucks.

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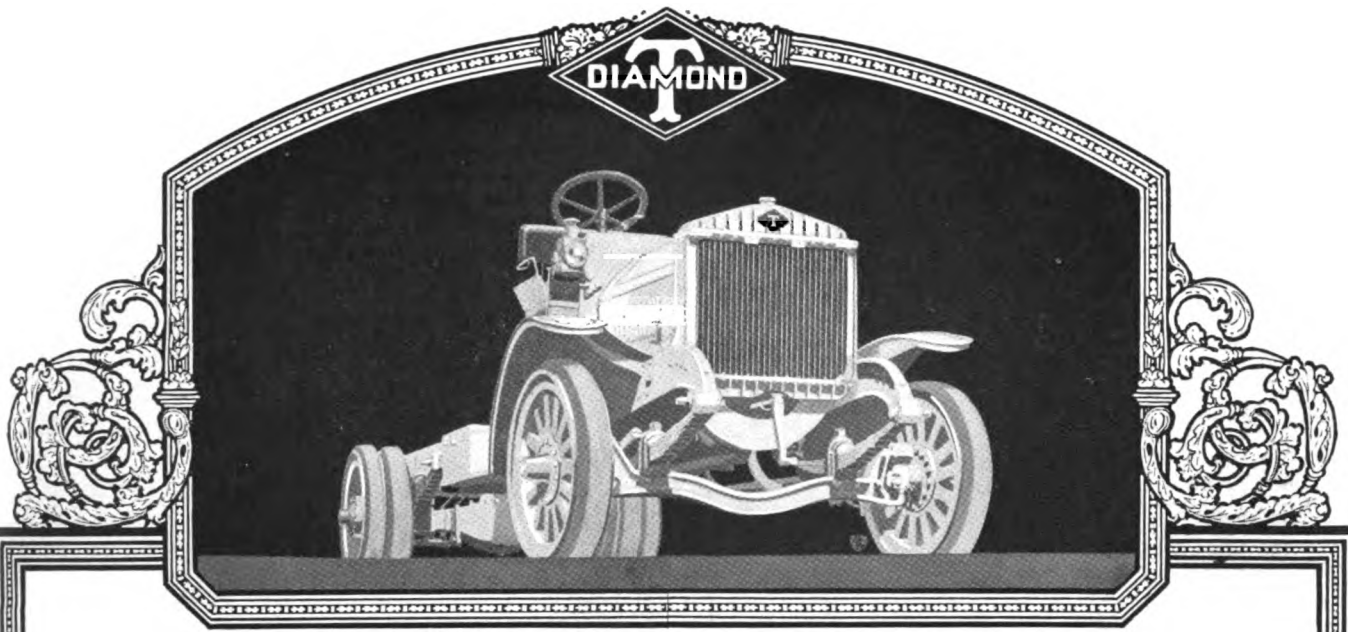

DIAMOND T

"The Nation's Freight Car"

Symbols *of* Service

WHEN you see the "sterling" mark on silver you know what you are buying—long years of service and satisfaction. The mark is a definite symbol.

On a motor truck, the letter "T" within a Diamond gives you the same definite assurance.

The past history of Diamond T trucks stands behind that symbol. The experience of users proves that the Diamond T is not in the speculative class. It represents a sound, staunch, proven investment in dependable transportation. Buyers get back their original investment, with big dividends, in year-after-year of continuous performance and economical service.

Study a Diamond T unit by unit. Compare it with other trucks that are recognized as leaders. Then learn what the thousands of Diamond T owners have to say about economy, performance, endurance and low final cost. You will understand why we liken the Diamond T registered trademark to the most dependable symbol of superlative value.

These Distributors are behind Western Sales and Service:

Vernon A. Smith Motor Co.,
Distributors for the State of Washington
511-513 East Pike Street, Seattle, Wash.

Diamond T Truck Sales Agency of Oregon, Inc.,
Distributors for the State of Oregon
89-91 North Ninth St., Portland, Oregon

Hirsch Motor Company,
Distributors for Upper California
1131 Van Ness Ave., San Francisco, Cal.

The Walter H. Bissell Co.,
Distributors for Lower California and Arizona
1220 S. Grand Avenue, Los Angeles, Cal.

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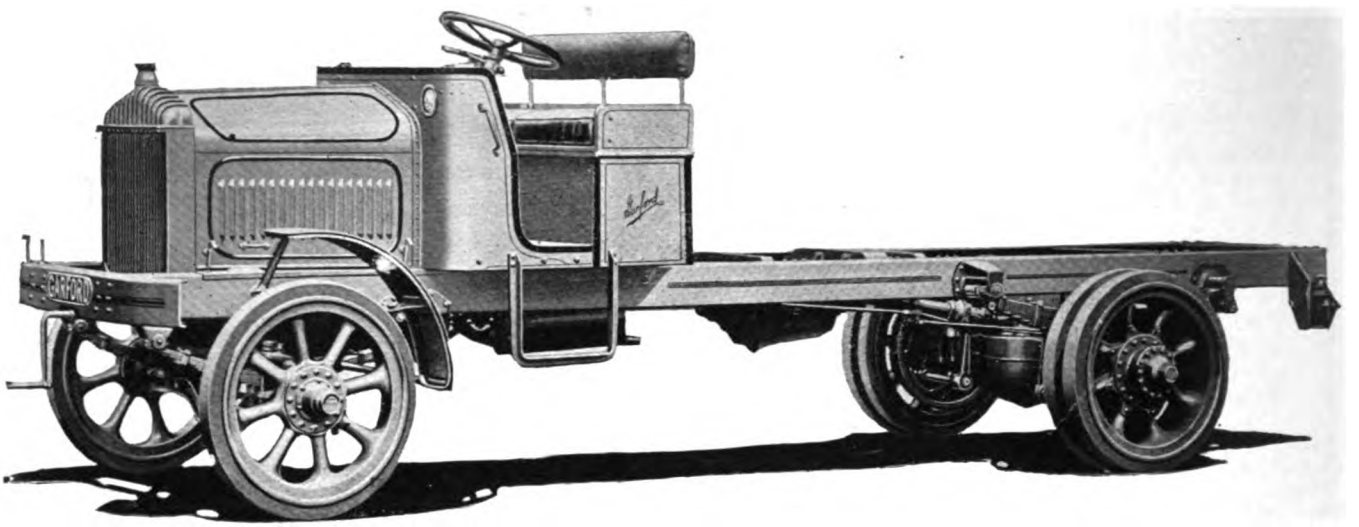
Smith Wheels



GARFORD

Manufacturers, after using Smith Wheels as Standard Equipment on their 5-ton and 6-ton Models, were so impressed with the resulting advantages that they decided, without hesitation, to put out their 3½-ton Model on Smith Wheels.

We are now supplying the Trade with large quantities of 2 and 3½-ton Smith Wheels.

Users of Smith Wheels never go back.

SMITH WHEEL INC
SYRACUSE, N.Y. U.S.A.

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Field DURABLE BODIES

An Enduring Investment

In the good will of your customers—that's the truth about *every Field Body you sell.*

Field Durable Bodies are built to give *permanent satisfaction.*

They possess great strength, with the lightest weight consistent with that strength.

The bolster construction, for instance, is most substantial. Guardangles, stake pockets sills and floor are tied solidly together—a feature found *only* in *Field's.*

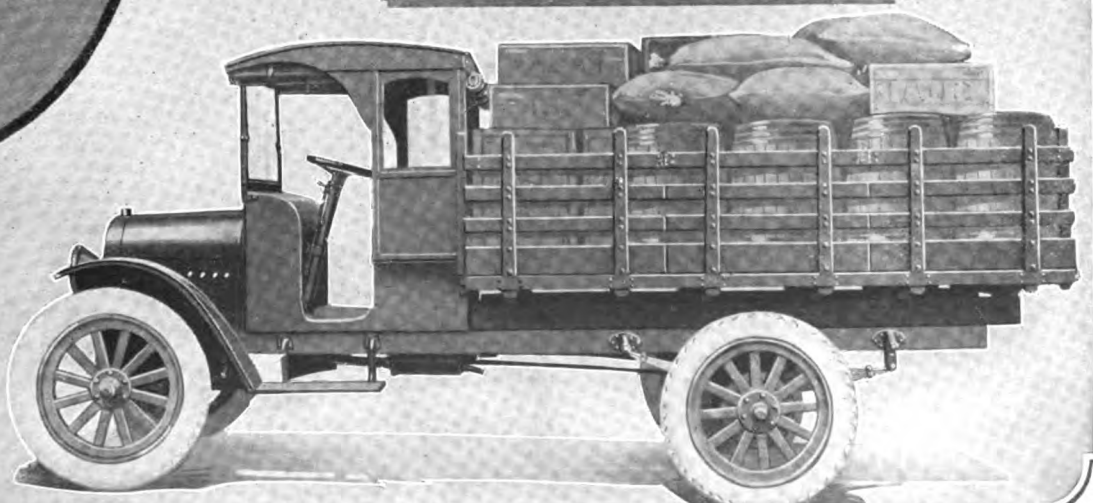
Our manufacturing facilities are complete, and so large that we produce Field Bodies at a price surprisingly low.

Our knockdown shipments secure lowest freight rates. A complete line of *Ford Bodies* always in stock. We are originators of the interchangeable unit idea for trucks.

Write for prices and full description.

Address Dept. X.

FIELD MANUFACTURING CO.
OWOSSO, MICHIGAN, U. S. A.



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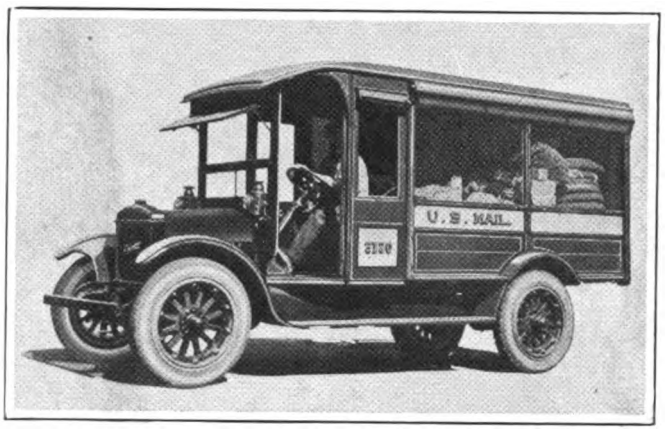


COMMERCE TRUCKS FOR POST-OFFICE WORK IN MANY PACIFIC COAST CITIES.

Speedy, dependable motor trucks are going into the Post Office service in several of the larger cities throughout the Pacific Coast territory. First Assistant Postmaster General John C. Koons has already assigned a number of trucks to certain postoffices and another list has just been completed of cities that will soon be using Commerce motor trucks in their local collection work.

Over 500 Commerce truck chasses built by the Commerce Motor Car Co., Detroit, Mich., have been turned over to the United States Postal Service to be used in this work. Los Angeles, San Francisco, Oakland, and Berkeley, have already been allotted Commerce truck chassis for this work, and several Oregon, Washington and Utah cities are also in line for similar allotments.

Hood River Apples and Motor Trucks

The motor truck has revolutionized methods of transporting apples in the famous Hood River Valley of Oregon, whose apples are known the whole world over. Of the 2,000,000 boxes of commercially packed fruit harvested this season, not more than 100,000 boxes were hauled from packing houses to shipping station by the old method of horse-drawn vehicles. Motor trucks have made short work of apple hauling.

It is rare nowadays for a grower with large acreage not to have his own motor truck. Truck sales in the town of Hood River to apple growers in the past season fell just short of 100 trucks. And besides this, many orchardists, buying new passenger cars instead of trading in their old cars, have converted them into serviceable trucks.

In a single line at the receiving station of the Apple Growers' Association recently were 19 different makes of trucks, ranging from a huge Mack to a Ford.

Motor truck transportation not only is the most convenient and the quickest way of moving the Valley's apple crop, but orchardists declare emphatically it is also the safest. The trucks have good springs, and no bruised fruit results from the journey to the railroad. In former years shippers included in their harvest instructions specifications for springs to be used under wagon racks. The horse-drawn wagon, however, is so little used at present that the paragraph of instructions pertaining to springs has become obsolete and has been dropped.

Motor trucks equipped with dump bodies are a big help in the marketing of cull and canning apples. With boxes short and difficult to obtain, the delivery of the cull stock in the loose state helps with the box shortage. With boxes and burlap bags selling at a high price, dump bodies on trucks work a big economy for the apple growers.

Transport Truck in New Factory

The Transport Truck Co., of Mt. Pleasant, Mich., has moved into its new plant which cost $200,000 to build. According to the company officials, the plant will be kept busy several months on filling orders already on its books. The present floor area is 52,000 square feet; this will be ultimately doubled, making 104,000 square feet.

Four-Wheel-Drive Auto Co., of Cantonville, Wis., has made several additions to its plant. Two new buildings have 35,196 square feet of floor space and much new machinery is being ordered. The company is also building a plant in Canada.

Truck Educational Tour Convinces Farmers

A greatly increased use of motor trucks on farms is predicted by C. A. Tilt, president of the Diamond T Motor Car Co., Chicago, as a result of the educational tour of motor trucks through the Central Western States arranged by the National Association of Motor Truck Sales Managers. Mr. Tilt declared that the tour so thoroughly demonstrated the value of motor trucks for farm use that all doubts as to their utility were removed from the most skeptical farmers.

Farmers who witnessed the splendid performance of the trucks on this tour appreciate the value of motor trucks as a means of greatly reducing operating costs. It was frequently demonstrated that the trucks could go anywhere a horse or wagon could go. Trips were made over newly-plowed fields, up steep hills, and over soft, muddy roads, with far greater speed than any horse could attain. All trucks were equipped with pneumatic tires.

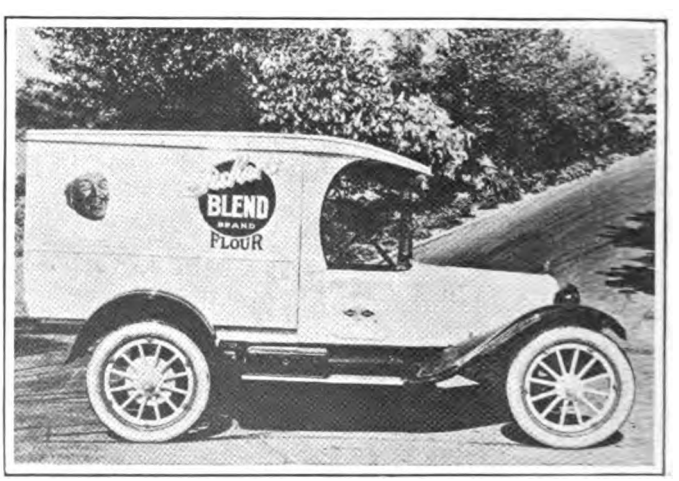
When the train of trucks reached Elgin, Ill., a farmer dared Louis Roos, driver of the Diamond T Farm Special truck, to fill its grain-tight body with wheat and drive it over a spot on the field which he knew to be very soft. Roos gladly accepted the dare and started across the spot. The truck sank to its hubs, but went on its way to a road bordering the field without any difficulty.

To Build Steam Trucks in Denver

The Steam Automotive Works, of Denver, Colo., successor to the Steam Auto Co., capitalized at $200,000, has been absorbed by the new organization, with $500,000 capital. The organization is under the management of a board of trustees, with J. H. Stokesbary, president of the board, C. C. McFee, secretary, and M. E. Johnson, treasurer, with an engineering organization including those of the old company, all of whom are pioneers in the steam automotive field.

The new organization will continue to feature a five-ton truck and will later bring out passenger cars, coaches and farm tractors, all of which will be equipped with their new steam outfits. The factory will be in Denver and a new plant will be built with 200,000 square feet of floor space.

J. K. McKeough has been appointed manager of truck sales for the Nash Motors Co., of Kenosha, Wis. His predecessor, L. F. Collins, resigned to become sales manager for the company's Memphis dealer, who acts as Southern distributor. McKeough has been connected with the car and truck industry for some thirteen years.



MOTOR CAR HELPS CREATE MARKET.

Nowadays many of the largest concerns in the country have bought cars solely for demonstration purposes. Among them are the Fisher Flouring Mills of Seattle. "Blend," the company's dusky chef, is making a tour of Washington, Oregon and Idaho, making mouths water everywhere with his appetizing Scotch "scones" and biscuits. The baking is done in an electric oven with which his Dodge Brothers business car is equipped. Great crowds collect about the car whenever it stops and "Blend" dishes out the delicacies as fast as he can make them. The car is artistically decorated with the company's name and trademark and is proving to be an extremely valuable advertisement.

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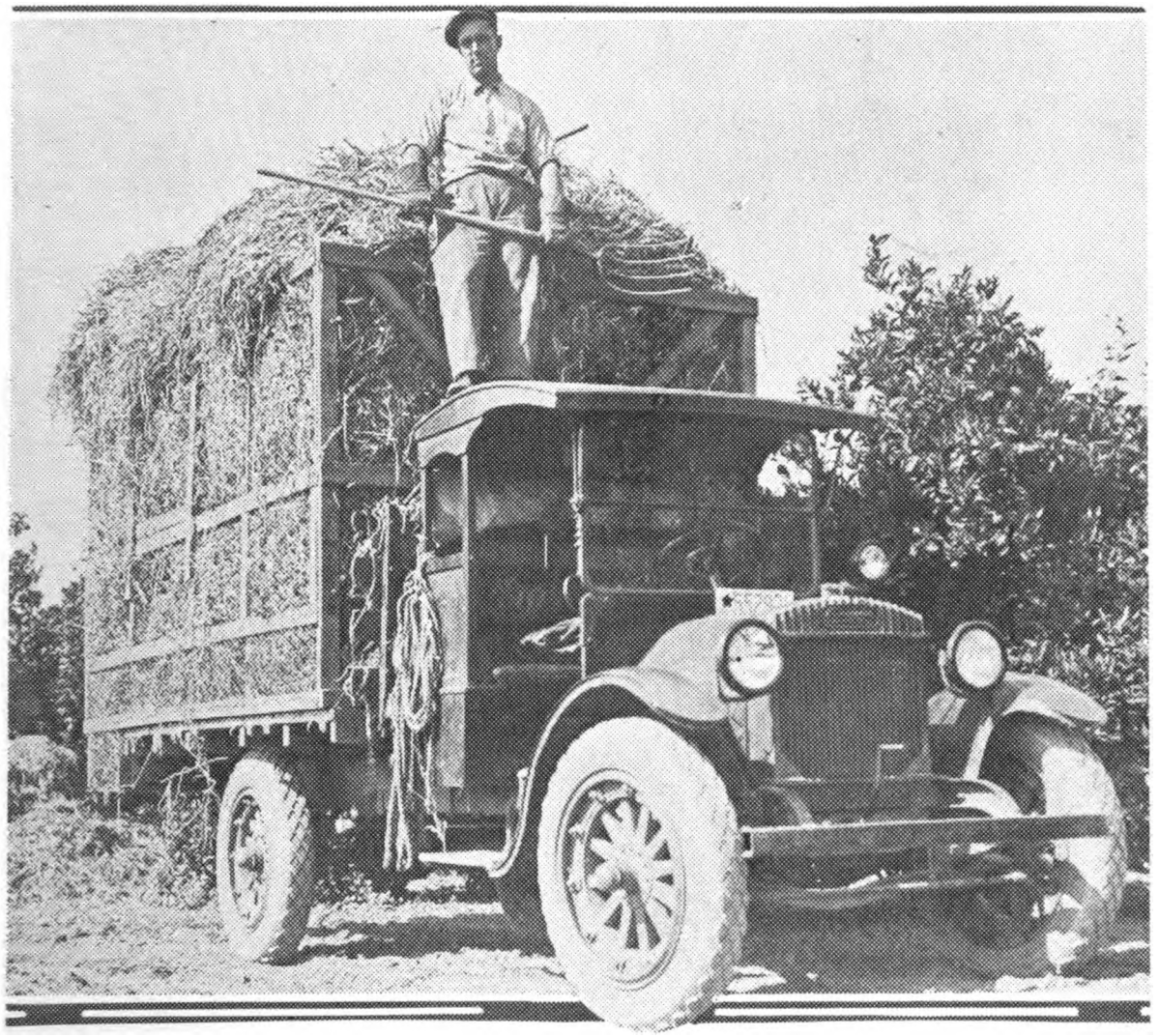

COMMERCE trucks meet the ***rancher's*** needs. A vast new sales field is opened by the ability of the modern, pneumatic-tired Commerce truck to haul capacity loads from field or orchard.

The Commerce two ton truck shown above hauls 5400 pounds of oranges from the grove at a single load. The truck load consists of 108 boxes of oranges where a team can only haul 72 boxes. The truck makes eight round trips per day to the packing house, where the team makes three round trips.

For the city or the country dealer, there is sure profit and certain satisfaction in the Commerce sales franchise. Wire or write us today for particulars.

The COMMERCE MOTOR CAR CO.

DETROIT :: MICHIGAN

CITY GARAGE, INC.,
1205 South Olive St., Los Angeles, Cal.

McCRACKEN MOTOR CO.,
Portland, Ore.

COMMERCIAL MOTORS CO.,
Seattle, Wash.

C. P. KIEL,
1830 Van Ness Ave., San Francisco, Cal.

SULLIVAN TAYLOR MOTORS, LTD.,
1260 Granville St., Vancouver, B. C.

W. B. WOOD,
Pacific Coast District Manager,
1205 South Olive St., Los Angeles, Cal.

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Un-retouched photograph of a motor truck equipped with Goodyear Cord Pneumatic Truck Tires and used in general farm service by A. J. Emmerton, Bloomer, Wisconsin

GOODYEAR

AKRON

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Bloomer, Wis., Welcomes Pneumatics Because They Save Roads

"MY use of Goodyear Cord Pneumatic Truck Tires shows me that pneumatics not only travel better on our clay roads but also are better for the roads. Solids have a hard time in the soft ruts and they are hard on the roads. I have observed that others here are taking note of this."—A. J. Emmerton, Farmer, Bloomer, Wisconsin

There is scarcely any work done on the Emmerton Farm near Bloomer, Wisconsin, that is not aided directly or indirectly by a motor truck on Goodyear Cord Pneumatic Truck Tires.

Due to the traction of its tires, the truck is able to carry full loads of fertilizer over plowed ground where solid tires could not go.

For the same reasons, the truck is able easily to haul feed to cattle and hogs wherever they may be, to carry oil promptly to tractors in the fields and to distribute fencing.

For the same reasons it is able easily to carry corn from the binder to the silo filler and grain from the separator to the bins.

This off-the-road hauling, of course, represents duty for which solid tires are not fitted because they spin and stall in soft going.

But Mr. Emmerton's experience also makes clear that the big Pneumatics have practically equal advantage on the clay roads of Cook's Valley, in which he is located.

The Goodyear-Cord-equipped truck covers stretches that, in bad weather, would mire solid-tired trucks and it covers them in one-fourth the time required by teams.

Also, he finds that after a regular 8-mile trip over a rough route, his cattle are not reduced in weight, crediting this to the easy riding on the Goodyear Cords.

Quite an additional significance, however, attaches to Mr. Emmerton's statement that the Pneumatics are regarded with growing favor in his community because their cushioning action saves roads.

It directs the attention of the motor truck dealer to another important reason back of the rapidly increasing rural adoption of trucks on the pioneer Goodyear Cord Pneumatic Truck Tires.

THE GOODYEAR TIRE & RUBBER COMPANY, AKRON, OHIO

TRUCK TIRES

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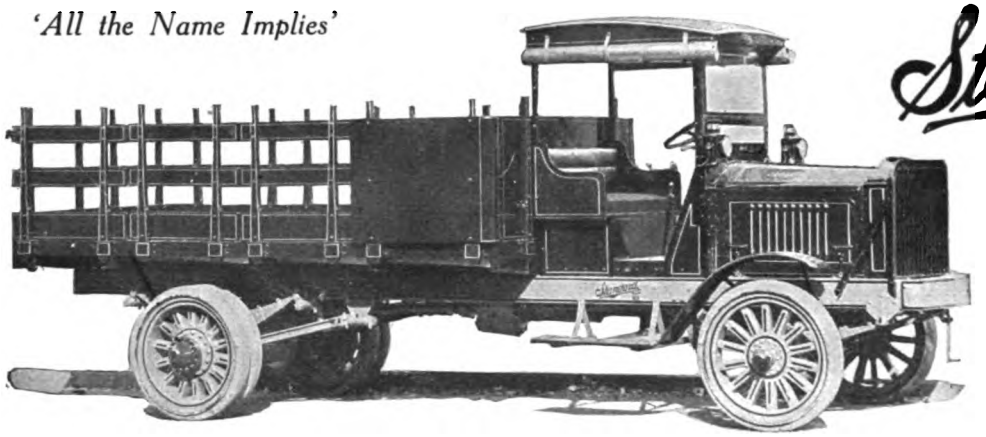
Please Mention "Motor West" When Writing to the Advertiser

'All the Name Implies'



A 3½ Ton Standard

Standard

MOTOR TRUCKS

1, 2, 3½, 5 Ton CAPACITIES

ADAPTABLE TO ANY BUSINESS

To the large nationally known manufacturer---to the small cartage firm with its diversified types of load---in fact in almost any line of business where there are heavy haulage problems to be solved, STANDARD Motor Trucks prove their wide range of adaptability.

Their sturdy strength, economy of operation and wide adaptability form a combination hard to beat and which will give long satisfactory service under the most severe conditions. The STANDARD line offers a profitable connection to dealers of proven ability, integrity and aggressiveness.

STANDARD MOTOR TRUCK COMPANY

DETROIT, MICHIGAN

PALACE GARAGE COMPANY
12th and Stark Sts, Portland, Oregon

CONTINENTAL MOTOR CO., Ltd.
1260 Granville St., Vancouver, B. C., Canada

SPEED UP ROAD WORK.

Let's speed up good road building. We will need good roads in case of emergencies in this country where the motor truck will be called upon to do capacity work. If the public will take care of the roads, highway transportation will lesson many worries for it in time of emergencies.

—Vice-President H. A. Conlon, Acason Motor Truck Co.

Railroads to be Large Motor Truck Users

One of the most interesting discussions at the recent convention of motor truck sales managers in the East was on the prospect of railway companies becoming large users of motor trucks. This prospect was emphasized by the fact that in Chicago there is a motor trucking company which competes with railroads by picking up outgoing freight for delivery to interurban electric lines and returning with other freight from such lines, for delivery direct to consignees.

C. A. Morse, assistant director of operation of the United States Railway Administration, was quoted as saying recently that when the development of the country for 50 miles on either side of a trunk line has required the construction of light branch lines, it is a question whether this policy should be continued or, the products of the farm handled by motor truck to the main lines.

It seems altogether likely that railroad officials, realizing the importance of this new method of transportation, will in a short time acquire fleets of motor trucks, to be operated on schedules to feed the main lines, as well as to relieve terminal congestion which now is being relieved by competitors, as in Chicago.

Lifting "Some" Burden From the Railroads

There are now 450,000 motor trucks in service in the United States. Allowing an average of 10 tons a day to each truck, which is conservative, these trucks carry four and one-half million tons of freight every day.

From Nothing to Millions in Few Years

Not so long ago, the egg production of Alameda county, Cal., was as nothing compared with that of the Petaluma country. Now, with its center at Hayward, 15 miles from Oakland, the annual egg production exceeds 6,000,000 dozen. Some plants hatch 50,000 eggs at a time. Chicks "designed" to be used as broilers, fryers, bakers and roasters are hatched by the million. Starting at Hayward, the industry spread to Niles, Irvington, Mission, San Jose, Pleasanton, Livermore and other places. Four collections are made daily, and fresh deliveries made to hotels, restaurants, boarding houses, etc., in Oakland, Berkeley, Alameda, Piedmont and Emeryville, as well as to San Francisco. Prosperity reigns in the egg and chicken business in Alameda county, Cal.

What did it? The motor truck, nothing less. But for the motor truck, the development could never have been what it is today.

Dealers Heeding Freight Shortage

Despite the fact that there is a marked increase in the demand for light and heavy trucks for freight transportation purposes, owing to the shortage of freight cars, motor car manufacturers are showing no disposition to relent in their vigorous campaign against unnecessary delays in loading and unloading freight cars. Every effort is being made to facilitate the quick return of "empties" to the manufacturing centers and to hurry the repair work on the thousands of cars not in service.

TRUCKS REDUCE H. C. L.

Let every community get down to the task of reducing the cost of living. That task is to encourage the farmer to practice more intensive methods, to make every acre produce twice as much and to encourage Rural Express to move his produce.

—G. D. Wilson, Director of Sales, Commerce Motor Car Co.

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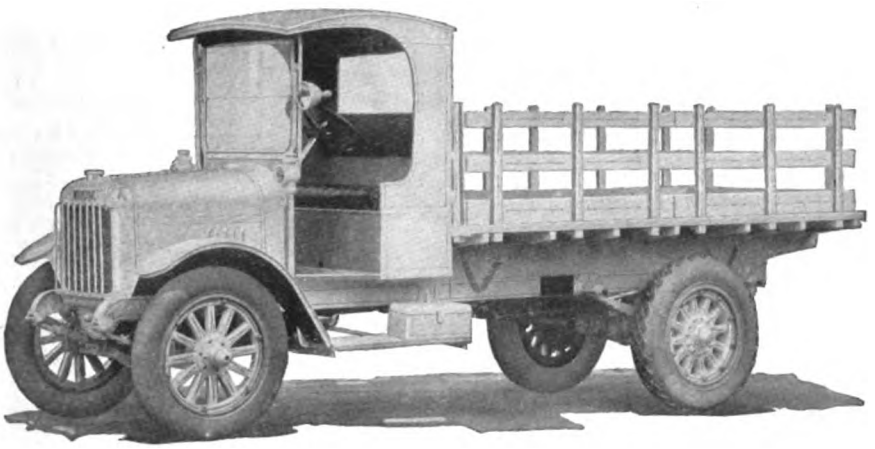
WOLVERINE

E. E. Gerlinger
Director of Sales and Advertising Pacific Coast
112 Market Street
SAN FRANCISCO, CAL.



Some Good Dealers Territory is still open. If interested, wire or write at once, as all territory will be covered very soon.

The Truck of Good Service

An up-to-date truck in every respect which will give 100% service to the owner. Fully equipped with electric starting and lighting system including a searchlight.

MANUFACTURED BY

AMERICAN COMMERCIAL CAR COMPANY

DETROIT, MICH.

FLEXIBILITY + POWER

Embodied in the power plant of

"KALAMAZOO"

"The Hand-Made Truck"

Gives our distributors something to talk about and we stand back of our truck. Kalamazoo users are satisfied at all times.

Three Models, 1½ ton, 2½ ton, 3½ ton

Now opening some new territory. Send for our catalogue and proposal to Distributors—it will interest you.

Kalamazoo Motors Corporation

(Motor Truck Division)

Kalamazoo, Michigan, U. S. A.

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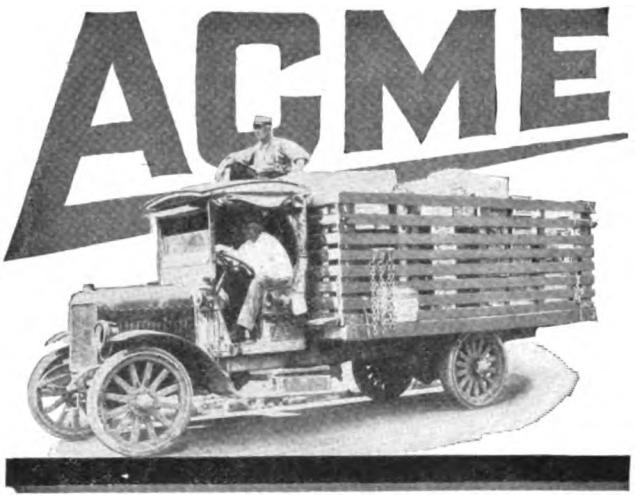

Two Ton Acme, owned by J. S. McWhorter, Dallas, giving a good account of itself in the gruelling service of the Texas oil fields.

Sure—enough—for—certain ACME

McWhorter's truck was bought in January, 1918, and since then has been operating in freight service continuously. It travels 60 to 120 miles every day. In fact, two Acme trucks move a big share of the merchandise and freight to Lewisville, Texas.

Whether hauling live-stock and other merchandise, or moving a young dry-goods store, or machinery and supplies to the oil wells, the Acme has proved to be the most dependable and sure-enough-for-certain mode of hauling in that country, as McWhorter puts it.

When you sell the Acme you sell a truck that will make good at any job.

Acme represents the finest dealer opportunity of the truck industry. Performance is assured by the adoption of such proved units as Continental motor, Timken axles, bearings and drive, Borg and Berg clutch, Ross steering gear, Cotta transmission, with gears always in mesh, and all other parts of equal high grade, correctly assembled in a well-balanced truck.

Built in 1, 1½, 2, 3½ and 5-ton models.

Write for our dealer proposition and an outline of our forceful national advertising campaign; also a copy of "Pointers for Profits."

Address Dept. 113

(The seal of Dependable Performance

ACME THE TRUCK OF PROVED UNITS

Trade-Mark Registered U. S. Patent Office)

The most dependable opinion is that of the man who knows from experience. The best ACME endorsement comes from oldest ACME users.

ACME MOTOR TRUCK COMPANY, CADILLAC, MICH.

IMPORTANT
Don't Forget Every Day

To put water in your radiator.
To see that you have oil in your crank case.
That your tires are pumped up.
That your shackle bolt cups are full.
Inspect lugs on wheels.
Have your storage battery inspected regularly.
Clean your tires regularly and seal the cuts.
It takes but 10 minutes to do so.
You will save money and trouble.
You should change the oil in the crank case, pack the universal joints, transmission, rear axle and wheels once a month.
Don't forget to grease the springs, they last longer, ride easier and save tires.
The cost of upkeep depends entirely on the care you give your automobile or truck.
Be sure to have it done, whether we do it or not.
OIL IS CHEAPER THAN MACHINERY.

—Vim.

Newby Field Manager for Bethlehem Motors

C. R. Newby, veteran of the automobile field, has been appointed a field manager for the Bethlehem Motors Corporation, and his name adds one more to the strong list secured by Roy Davey, general sales manager of the Bethlehem orporation, for the aggressive sales campaign now being waged. Mr. Newby was for years connected with the former E-M-F Company, the Studebaker and the Maxwell companies as a district manager, branch manager and general sales executive, and he is known from one end of the country to the other.

New Rainier Dealers on Coast

The Rainier Motor Corp., of New York City, has recently announced the appointment of two new distributors in the Pacific Northwest. In Seattle, Washington, the Henry Mossbach Automobile Co. has been made Rainier dealer; in Portland, Ore., the agency has been placed with the Service Garage.

Trailer Makers Meet

H. C. Fruehauf, of Detroit, and C. A. Geiger, of New York City, have been elected first and second vice-presidents, respectively, of the Trailer Manufacturers' Association of America at the recent meeting of the Association. E. W. Bennett, of Los Angeles, has been appointed to represent the Association in legislative matters on the Pacific Coast.

Willys Buys in Republic Truck

John N. Willys and Willys interests have acquired a controlling interest in the Republic Motor Truck Co., of Alma, Mich. The company is the largest exclusive truck manufacturing firm in the world and is now turning out 1,200 trucks a month. Organized in 1913, the company has sold 60,000 motor trucks. No change will be made in the personnel or management of the company at present, according to Charles G. Rhodes, secretary-treasurer.

Duplex Pays First Dividend

The Duplex Truck Co., of Lansing, Mich., paid its first dividend, one of 10 per cent, on Nov. 15. The company was organized three years ago with Lansing capital, taking over the Duplex Co., of Charlotte, Mich. It is now free from indebtedness and has a very substantial reserve. The Duplex truck distributing organization includes 60 agencies in this country and a number of foreign exporters.

Ayers Heads New Truck Firm

J. C. Ayers, vice-president of the Denby Motor Truck Co., has resigned to become president of the Motor Truck Corp., recently formed to take over control of the Universal Service Co., maker of the Universal truck. The Universal will be discontinued and the Ayers truck will succeed it. The 1920 output will be at least 450 trucks.

To make finding the hole for the cotter pin easy, file a notch in the end of the bolt or stud, parallel with the hole.

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A Year 'Round Market

for the

Cletrac

TANK-TYPE TRACTOR

CLETRAC Dealers the country over enjoy a year 'round active market—there are no periods of sales stagnation—no months when they must be content without sales—not a day in the year when they must close up shop because there is no immediate need for the Cletrac.

There are a thousand and one jobs on the farm that the Cletrac will do better than horses or mules during the winter months. It will clear the wood lot when the footing is wet, slippery and muddy; it will saw wood, grind feed, run ditches and trenches, clear the roads of snow and harvest ice.

Then there is road cleaning and repairing for the township, city and county, and heavy hauling that neither trucks nor other types of tractors could handle in the muck and slush of winter roads.

The Cletrac lays its own broad metal tracks wherever and whenever there is work to be done. It is sturdy, compact and economical. It burns kerosene perfectly.

You will find a Cletrac dealership profitable every day in the year---winter as well as summer. It will help you to build business when other lines are slow.

Our book for dealers, "Sale Quality in Tractors," is a factful story of dealer opportunity. :: Send for your copy today.

The Cleveland Tractor Co.

19201 Euclid Avenue Cleveland, Ohio

Largest Producers of Tank-Type Tractors in the World

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Best Tractor Sales Policy

Cletrac Expert Says Farmers Must Be Educaed and Dealers Selected and Trained Before Results Follow

E. B. STONE, assistant advertising manager of the Cleveland Tractor Co., Cleveland, O., utters some most excellent thought on the best tractor sales policy; how to sell the automotive industry's latest product and, having sold it, to keep it sold; having reference especially to tractors for power farming.

He opens by stating that only a few among the leaders in agriculture have come out openly in favor of power farming, though it is generally conceded that tractor power is more efficient than horse or mule power, and that farmers using tractors reap richer rewards than those who do not.

Mr. Stone advocates, based upon the logic of this situation, a sales policy in which these points are given consideration:

1—A determination of the type of tractor best suited to average farm needs;

2—A broad plan for educating the farmer concerning tractor or power farming;

3—The selection and training of dealers;

4—The development of high standards of service throughout the entire distributing organization;

5—A further educational campaign upon owners and dealers to keep both in touch with latest developments in power farming.

As to the first point, Mr. Stone sets forth that in a decade of tractor development, the machine of medium power and capacity has been proved to be to the farmer's best interests, and that the most popular size is one which pulls two or three plows, according to soil, and which will deliver 20 horsepower when set up for any of the numerous belt jobs on the farm.

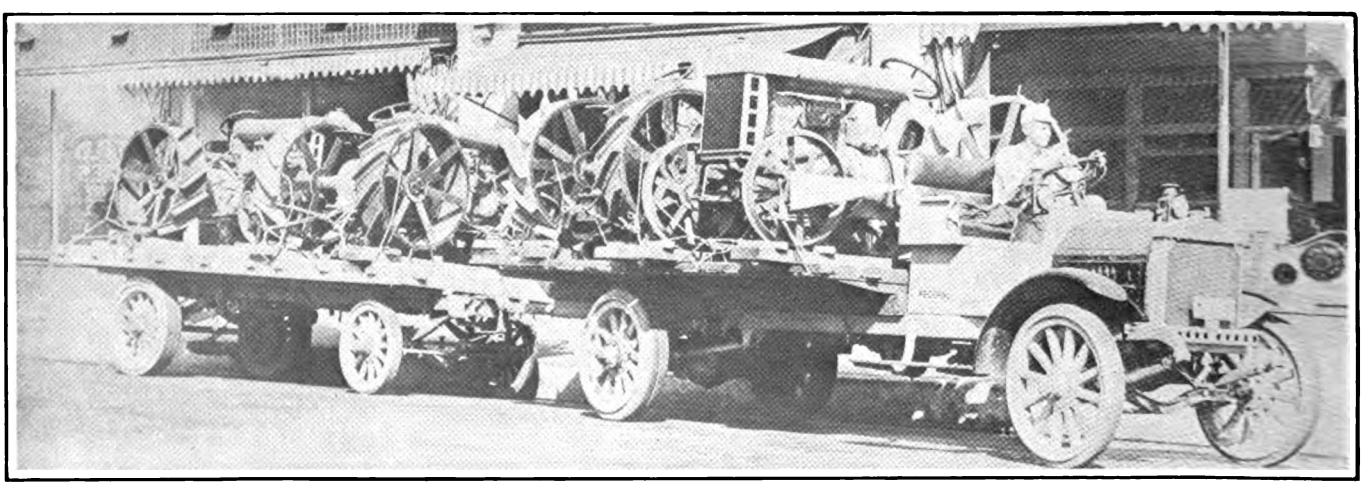
Emphasis is also put upon the advantage of increased speed; a two-plow outfit at 3½ miles per hour doing as much in a day as a larger tractor with three plows traveling at only 2 miles per hour; the cost of the smaller tractor being less, the work better; its ability to work in more kinds of weather and soil being a factor, as its weight will not mire it or pack down seed to the detriment of future crops. To sell well, a tractor must be of a weight and tractive surface to stay on top of the soil always; must be small, compact, simple in control, accessible, to avoid ruinous delays; must be usable more days in the year than animals and portable gas engines.

Conservative estimates put the potential market for farm tractors at 1,000,000. To educate farmers is, then, important in a sales policy. National and regional farm and automotive papers will help; in fact, the latter are the backbone of the advertising plan. To this is added local advertising, to ally tractor farming with the dealer.

Educating the dealer in consistent and persistent advertising is even more important than sales details; in fact, the need of a broad educational policy is indicated by the fact that power farming means displacing ideas and methods as old as the hills. In this, as in service, there must be the greatest co-operative relation possible between makers and the dealer, who is the distributing point in the plan. Relatively, there are few real "tractor dealers." The need for red-blooded men to be selected as dealers, men who will appreciate the task and opportunity ahead, and in whose organizations sales, mechanical and farming ability will be adequately balanced. Happily there is a good opportunity to select dealers in the fact that they can be found both among farm implement and automobile men, both fields containing men who have the confidence of farmers. Then there are new men of quick ability and sufficient capital whom the opportunity attracts.

Service—next to the right design and construction, there is no better means to good will and more sales. The new owner must be taught to operate and care for his machine. Repair service must be prompt, especially in rush seasons—crucial times for farmers who have staked a whole year's work on that expected of the tractor.

Farmers do not expect something for nothing. They



TRACTOR DEALERS UTILIZE MOTOR TRUCKS TO MAKE PROMPT DELIVERY TO SOUTHERN CALIFORNIA RANCHMEN.

Up-to-date power farming dealers are utilizing the motor truck in making quick delivery to their buyers and in keeping that implement in service. Here is a load of Fordson tractors, mounted on a truck, just leaving the salesroom of the Wm. L. Hughson Co., at Los Angeles. The truck will hurry the tractors out into the country and deliver the machines ready for work. This service of the Hughson Co., which distributes Fordsons on the Pacific Coast, has been much appreciated by the farmers. Tractors and trucks are rapidly filling the void of farm labor shortage and even speeding up the production and marketing of farm products to a point far in advance of that produced by human labor alone.

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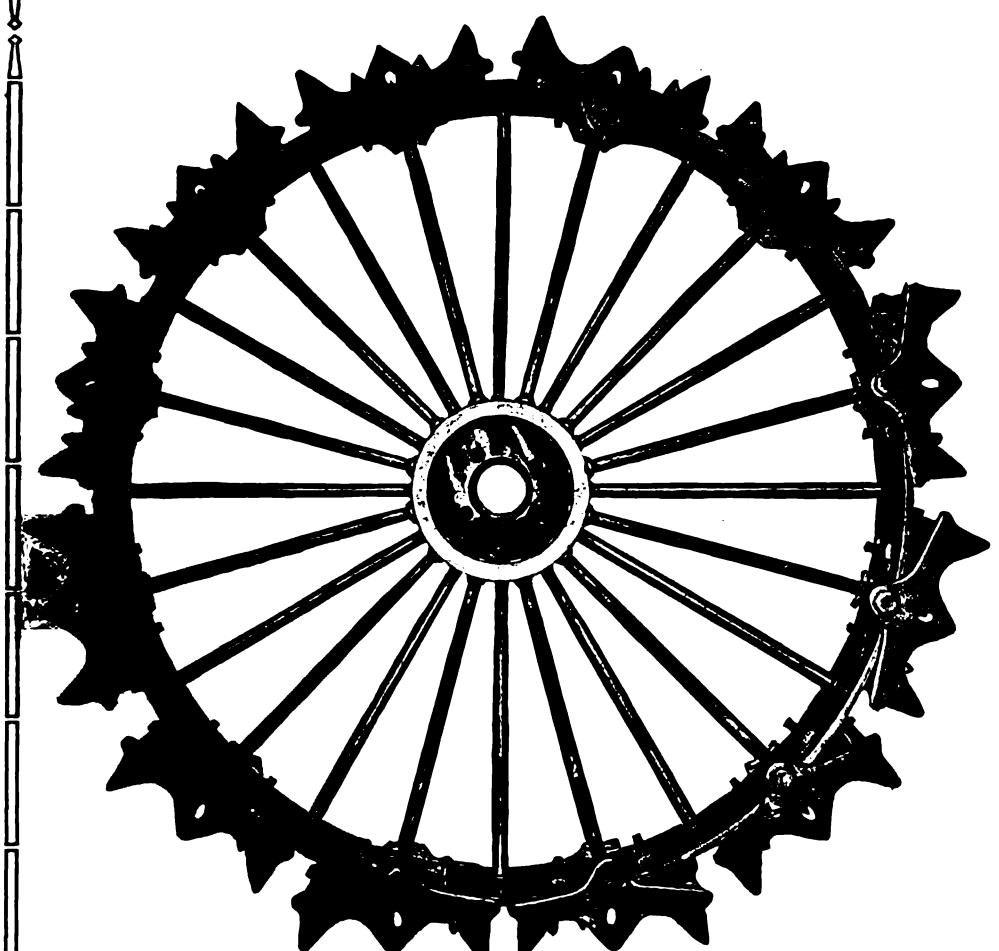
Traction No Longer a Source of Grief

GRID-IRON-GRIPS FOR TRACTOR WHEELS

MAKE ANY WHEEL TRACTOR A DEPENDABLE, POWERFUL STEED WHICH WILL WORK TO MAXIMUM CAPACITY UNDER ALL CONDITIONS. Every atom of power utilized profitably—no slipping, just constant, steady traction whether in extremely sandy soil, heavy black gumbo, wet and muddy soil, or under any other condition.

Lays Its Own Track

The GRID-IRON GRIP lays its own track of steel for the wheels to roll over. Nothing complicated about them—a simple but ingenious device but positive in its action. There is no backward action to the GRIP—it lays itself flat and raises straight up as the wheel passes over. Can not pack or in any way reduce the fertility of the soil. Once placed on a Tractor the GRID-IRON GRIPS require no further attention—there is nothing to get out of order. The GRIPS are self cleaning.



Write for Descriptive literature and our dealer proposion

Grid-Iron Grip Co.

Rock Island Illinois

West Coast Distributors

E. E. GERLINGER
112 Market Street
San Francisco, California

Director of Sales and Advertising
California, Nevada and Arizona

R. M. WADE & CO.
Portland, Oregon

Distributors for
Oregon, Washington and Idaho

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THE SIGN

OF SERVICE

The True Economy of Ahlberg Service

In these days when costs are rising Ahlberg Reground Bearings are saving Repairmen, Fleet-owners and dealers large sums.

The Ahlberg Reground Bearings gives exactly the same service as any new bearing will give—yet the cost is much less than the cost of new ones.

Don't throw your worn bearings away — they are worth money.

Write us at our nearest branch for details. We can save you money on both new and reground bearings.

Ahlberg Bearing Company

325 W. Pico St., Los Angeles, Cal.

BRANCHES:

PORTLAND, OREGON
SAN FRANCISCO, CAL.

understand there is wear and tear and will pay reasonably for repairs. It is promptness they want. Given that, the success of the tractor is assured.

Users must be kept abreast of developments by dealers, and between dealers and manufacturers there must be a constant flow of service information. There should also be a continuous information campaign concerned chiefly with tractor farming implements, for after all the farmer looks upon the tractor only as a power plant, and must judge its value by the quantity and quality of work his implements do when attached to it.

Track-Pull Tractor to Open Eastern Plant

The Bean Spray Pump Co., of San Jose, Cal., manufacturer of the Bean Track-Pull Tractor, will establish a factory in the Middle West to manufacture its general-purpose farm tractor. The Track-Pull tractor was designed originally for orchard work and during the past four years many have been sold on the Pacific Coast. The Bean machine's first appearance east of the Rockies was at the Wichita tractor demonstration last summer.

Several peculiar features of design make the Track-Pull unique among tractors. It has a single-drive track in front, which pulls the tractor. The track can be steered in any direction almost as easily as a team of horses. The Track-Pull has a pulling unit which attaches directly to any farm implement, such as mowers, cultivators, binders, etc.

In plowing the Bean tractor has a 2-bottom capacity. It is manufactured to provide the farmer with a power unit which he can use on any of his equipment, substituting for a team of horses and making the handling of any work a one-man affair.

Moreland Perfects Two Farm Tractors

Watt L. Moreland, general manager of the Moreland Motor Truck Co., Los Angeles, announces two farm tractors, of two different types. For five years these have been worked on with a view to producing a tractor that could be placed in the buyer's hands with the experimenting done at the expense of the maker, and during two years and a half tractor faults have been studied intensively, with the result that the two tractors soon to be marketed are claimed to be without the usual tractor troubles.

One, of traveling-track type, is a 15-30 h.p. job, entirely the product of the Moreland factory. It has detachable sleeves, so that worn or scored cylinders may be replaced by sleeves—inexpensive compared with reboring. The motor has the Moreland gasifier, enabling use of distillate and obtaining high power. In hard baked adobe, four 12-inch plows have been handled for months without the slightest upward throw to the front end. Farm implement men declare it one of the best medium-powered jobs in the Western territory.

The other is of the wheel type, rated 10-20 h.p., and is primarily for citrus groves and orchard work, being also highly practicable for small ranches.

Mr. Moreland is to form a new company and production is expected in the spring. It is likely that a large proportion of the output will be manufactured by the Moreland Motor Truck Co. in its new plant at Burbank, near Los Angeles, and the marketing will be through the present Moreland truck sales organization.

Arnott Takes Advance Rumely Line

Arnott & Co., 112 South Los Angeles Street, Los Angeles, have been made Southern California distributors for the Advance-Rumely line of tractors, and a sales and service force has been organized by Manager M. D. Schatzman. The Advance-Rumely tractors, made in several sizes, have been in wide use many years and are adapted to the soil in Southern California.

The L. M. Rallsback Co., California distributor of the Allwork tractor, made by the Electric Wheel Co., has moved to 222 North Los Angeles Street, Los Angeles.

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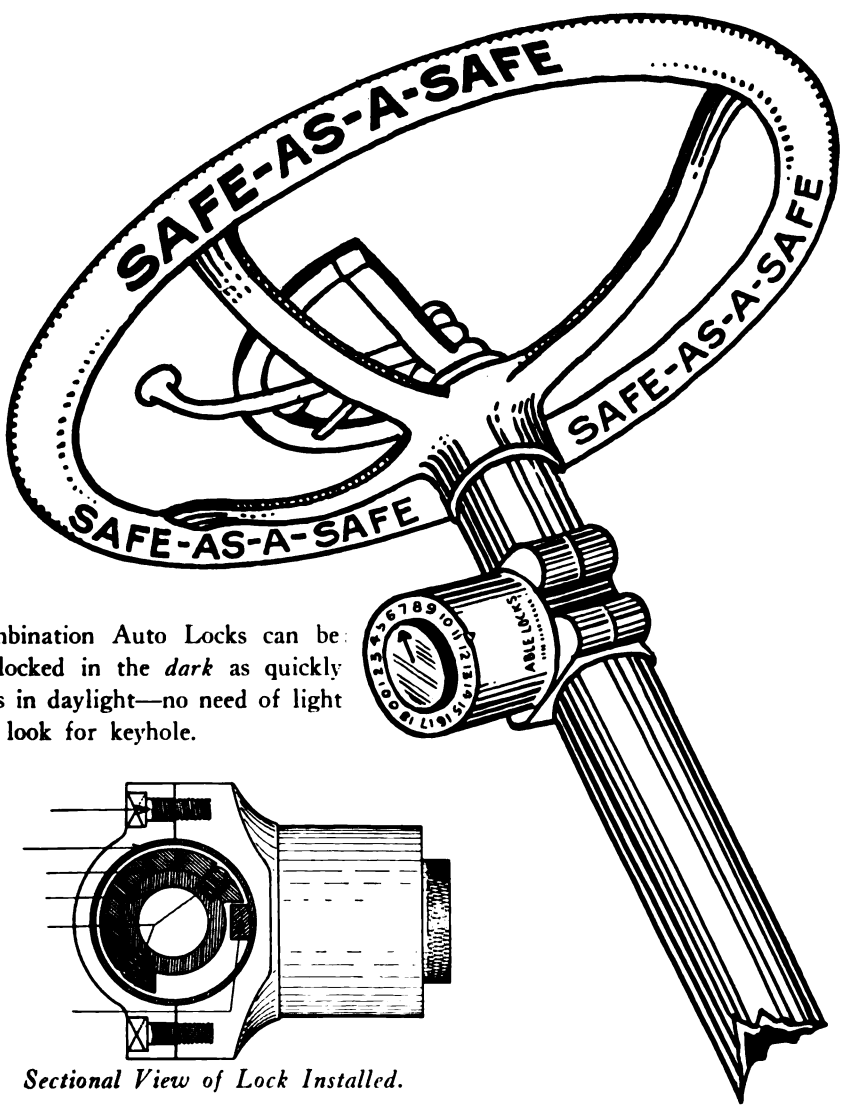
ABLE COMBINATION AUTO LOCKS

APPROVED BY UNDERWRITERS' LABORATORIES

REDUCES INSURANCE COST



Combination Operated From the Seat No Two Locks have the same Combination

Price $15.00 INSTALLED

ABLE Combination Auto Locks can be locked and unlocked in the *dark* as quickly and as easily as in daylight—no need of light to find key or look for keyhole.

Sectional View of Lock Installed.

POSITIVELY PREVENTS THE CAR FROM BEING DRIVEN OR TOWED AWAY

MADE BY **ABLE MFG. CO.** 731 FOLSOM STREET SAN FRANCISCO, CAL.

Distributors:

OAKLAND	SALT LAKE	SACRAMENTO	PORTLAND	SAN FRANCISCO
J. W. BURGE	CHAS. A. NICHOLS	AFFLECK & COLEMAN	SMITH AUTO CO.	CHAS. P. BOONE & CO.
1912 Telegraph Ave.	373 South Main St.	1106 K St.	Couch and Park Sts.	503 Market St.

AGENTS WANTED

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Real Truck-Tractor Engine

Midwest Has Evolved a Heavy-Duty Motor Specially Designed for the Exacting Work Expected of It

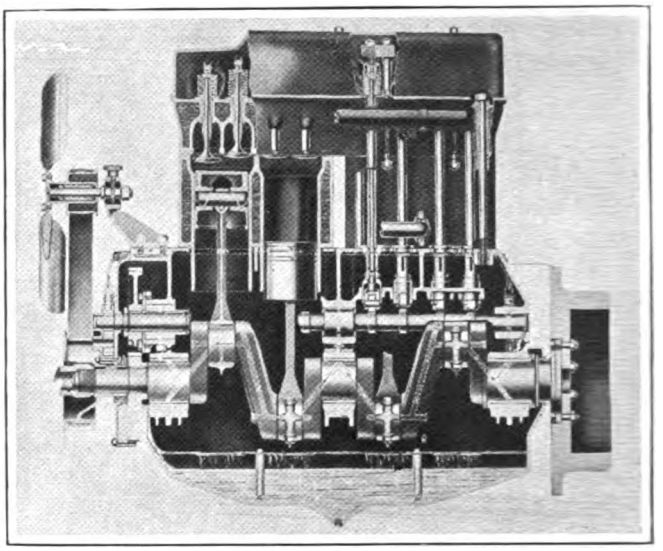
TO THE Midwest Engine Co., Indianapolis, Ind., with over a half-century of engine building experience, will go the credit for effectively divorcing the tractor and truck engine from its two lighter-duty prototypes, i. e. the passenger car engine and the hybrid, semi-heavy-duty truck engine which has often failed to make good in heavy-duty service. The new Midwest job is a strictly heavy duty, internal combustion engine, which has been designed as such—not a remodeled or re-hashed modification of passenger car engineering practice.

Four things must be taken care of in the producing of a real truck or tractor engine: First—The margins of safety in every part must be exaggerated in strength and dimensions so that the possibility of breakage under the hardest service conditions is eliminated. Second—All working parts must be floated in, or fogged with, lubricant, without fouling of spark plugs or the wasting of the lubricant. Third—Grit and dust must positively be kept out of the bearings and other vital parts. Fourth—Finally super-positive cooling must be provided.

Strength, beyond any strain that will ever be imposed in practical usage, durability and long life, are three things the Midwest engineers endeavored to attain. For example, the crankshaft is 3 inches in diameter, as are also the crank pin bearings. The liberality of crankshaft and crank pin dimensions is proportionately maintained throughout the entire engine. Another example of brute strength and durability of this engine is the size and construction of the three main crankshaft bearings.

Under the Midwest method of lubrication, moving metal theoretically never comes in contact with moving metal—that is merely another way of saving that all metal-to-metal friction, with the consequent wear and tear, has been reduced to the minimum. Full force pressure feed, which circulates the oil through a hollow crankshaft, is maintained by a geared self-priming pump. An automatic vacuum controlled relief valve, which is located at the front bearing, adapts the oil pressure in to the load on the engine and not to the speed of the engine. An assured film of oil intervenes between all moving parts where friction and wear are disastrous. Due to the points at which leads are provided, oil is injected into the bearings at the moment of minimum bearing pressure, not at the moment of maximum bearing pressure.

Dust and grit cannot enter the working mechanism through the crankcase, since no breathing operation is made from the outside air. The usual breather pipe has been eliminated. Instead the eight tubes surrounding the push rods act as a breather, thus balancing pressure in the crankcase and valve cover and providing a fog of lubricant for the valve mechanism.

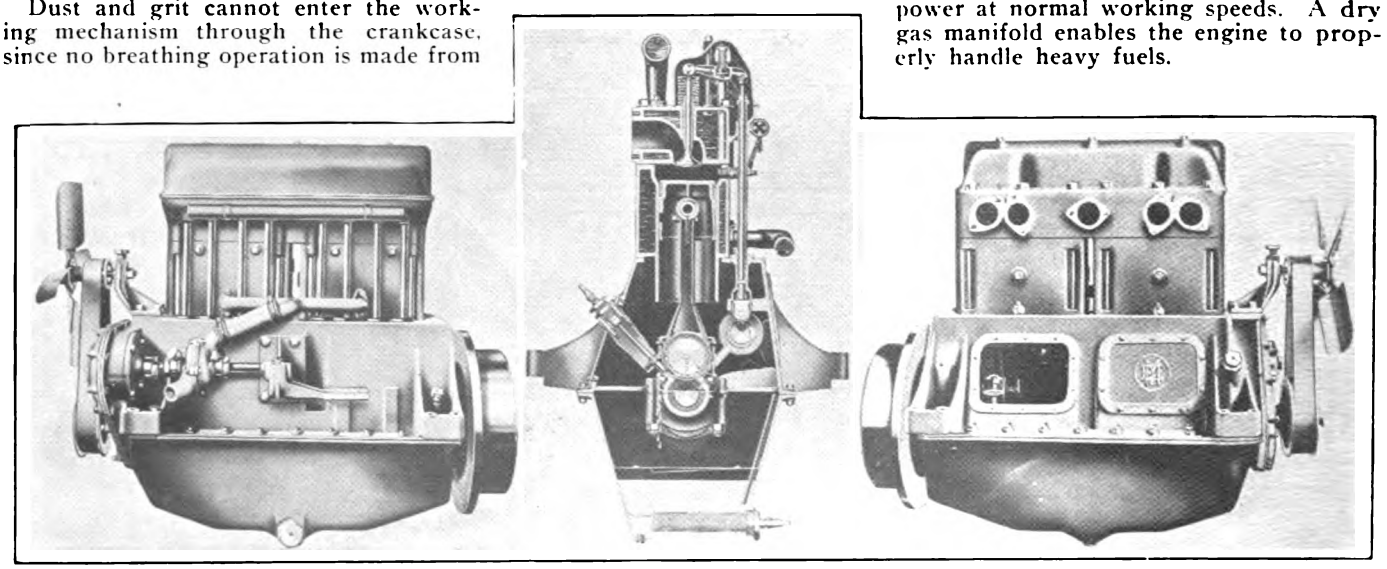


LONGITUDINAL SECTION OF MIDWEST MOTOR SHOWING LUBRICATING SYSTEM.

Nothing revolutionary is incorporated in the cooling system, but through the liberality and correctness of the design, proper and uniform cooling is assured at all times, even under the most strenuous usage. Water is circulated by a propulsion type rotary pump with bronze runner cast onto the shaft in such a way that it can never loosen. Water pipes of rigid construction are connected to the pump and the radiator with flexible hose of suitable length to eliminate all possible strain. Water spaces, especially around the exhaust valve, are unusually large—incidentally three water outlets are provided in each cylinder, directly over the exhaust valve.

Connecting rod bearings are cast in the rod, i. e. by centrifugally throwing the hot metal into the forging itself, thus insuring against porous spots and producing a 100 per cent bearing in which neither shims nor grooves are used. Another vital point is the connecting rod forging supports the bearing itself full length, which prevents ball-mouthing of bearing and usual loss of lubricant, since bearings show the least wear.

Overhead valves of large diameter (2¼ inches in the clear) combined with non-wearing "rocking chair" construction on the rocker arms, give this engine wear-resisting ability as well as ability to develop the maximum power at normal working speeds. A dry gas manifold enables the engine to properly handle heavy fuels.



LEFT SIDE OF MOTOR—CROSS-SECTION OF MOTOR LOOKING FROM FRONT—RIGHT SIDE OF MOTOR.

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Between You and Danger

RUSCO Brake Lining and Clutch Facings

Cars equipped with Rusco Brake Lining are safe for you to sell—safe for the car owner to drive.

You know that the brakes are as efficient as brakes can be, and the man whose car you made safe with Rusco knows it too.

Rusco is guaranteed for one year—another good selling point.

Send for book of all Rusco Products—interesting and valuable to the car manufacturer and dealer.

The Russell Manufacturing Co.

38 Factory Buildings — Established 1830 — 25,000 Shuttles

New York City, 349 Broadway
Detroit, 18 Alexandrine Ave., East

Home Offices and Factories:
515 Russell Ave., Middletown, Conn.

Chicago, 1438 Michigan Ave.
Atlanta, 60 So. Forsyth St.

Salt Lake City, Utah
Denver, Col.

Western Distributors
JOHN T. ROWNTREE, Inc.,
Los Angeles, Cal.

San Francisco, Cal.
Seattle, Wash.

South Western Distributors, CAMPBELL, WOOD & CO., Dallas, Texas

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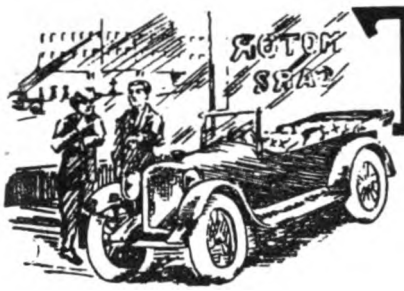

Trade Briefs and Factory Gossip

News Filtered from Detroit.

Four million dollars' worth of the preferred stock of the new Lafayette Motors Co., Indianapolis, was subscribed for in four days. The capitalization is $6,000,000, with a present non-voting issue of $4,000,000 cumulative preferred, at $100. The common stock issue totals 40,000 shares, without par value, 10,000 shares to be given with the preferred. The prompt purchase of the preferred shows great confidence in the achievements and standing of Messrs. Nash, White and Howard. Equipment of the factory is under way and it is hoped to exhibit at the shows.

Dort Motor Car Co., Flint, Mich., is expected to announce an extensive expansion program, following its increase of capital from $2,000,000 to $3,500,000.

Reorganization plans of the creditors' advisory committee of the Saxon Motor Car Corp. were accepted by holders of 43,000 out of the 60,000 outstanding shares, at a special meeting. The plan is to liquidate claims by creditors taking $1,200,000 of 8 per cent cumulative preferred, par for par; and to substitute for the present issue of 60,000 shares of $100 par value an issue of 200,000 shares of no par value. Share for share of the new stock would be given stockholders, or, two new shares for one old, now held at around $15; the 120,000 new shares to be underwritten by a Chicago banking syndicate; any stock not so taken to be offered the public. The plan is expected to give the company a working capital of $2,500,000 to $3,000,000.

Walter P. Chrysler, sojourning at French Lick, Ind., who resigned the Buick presidency a year ago and who with others of General Motors recently went to Europe to study conditions with reference to possibly establishing factories there, has resigned as vice-president of General Motors.

November 15 was the expected full-operation date of the new $220,000 assembly plant of the proposed $2,250,000 Hudson-Essex Motor Co. So President Roy D. Chapin announced. In course of erection are a machine shop and heat treating plant, two more units of the extension plan. These will be in operation soon after January 1. Thus 276,000 square feet will have been added to the 1,000,000 manufacturing space already available. These buildings, and one erected during the war for Government work, add 42 acres to the 26 acres occupied by the main factory. The new machine shop will be 100 feet by 300 feet, will contain 120,000 square feet of floor space and will cost $300,000, equipment costing $600,000 more. The heat treating buildings will be 200 by 100 feet, of 20,000 square feet area, and will cost $50,000 plus $100,000 for equipment. Six thousand men are now employed by the Hudson and Essex interests. The number will be doubled when extensions are completed.

Following the report that the English Rolls-Royce will be manufactured on this side comes the announcement that another English company, the Vauxhall-Pomeroy Co., will do so, with an American company and American capital. French concerns, such as Panhard, Renault and DeBlon-Bouton, are said to be considering similar moves.

J. A. BENELL,
Assistant General Manager Haynes Automobile Co., Kokomo, Ind.

In respect to housing, Detroit is suffering from an acute case of undigested prosperity. During the war, real estate slumped. Men went to war and their families "doubled up" with others. Now, families with children are in a particularly bad predicament—like all others. People are living in tent communities. Homes, including flats and rooms, have been rented to the highest bidder. Janitors are more susceptible than ever to tips, if they are big enough. Furniture sale sharpers are coining money. They manage to get a flat or house, equip it with second-hand furniture, rent it for a month, then advertise that the buyer of the furniture can rent the place. They get high prices for their goods. Many residents took to hotels, making it necessary for travelers to stand in line for hours to even get cots. It is proposed to moor lake steamers at downtown docks and use them as hotels during the winter.

The Scott Motor Car Co. succeeds the Wolverine Motor Car Co., of Kalamazoo. Most of the promotion stock is called in and will be offered through regular channels. The authorized capital is $250,000. The interests of the former president, A. H. Collins, will be taken over. The present officers will preside until new ones are elected. Ample backing is claimed by Harry Scott, and regular production is slated for January 1.

A new Detroit company is the Apex Motor Co., and the first plant unit, to be started at once, will be 50x200 feet. It will be the assembling room. The main factory unit will be 100x300 feet. At the beginning about 200 men will be employed.

* * *

Benell Promoted by Haynes Co.

J. A. Benell formerly special representative of The Haynes Automobile Co., Kokomo, Ind., has been appointed assistant general manager of the company. Soon after Mr. Benell was called from the road to assume duties at the Haynes factory he was made assistant to A. G. Seiberling, vice-president and general manager. Because of his wide experience in the manufacturing business and thorough knowledge of efficient factory and office methods, he was quickly promoted to the office of assistant general manager.

* * *

Hyman Standard Truck Advg. Mgr.

Wallace C. Hood, general sales manager Standard Motor Truck Co., announces the appointment of C. S. Hyman as advertising manager, who will, in the future, direct the advertising and publicity on Standard motor trucks. Mr. Hyman, who was formerly connected with the Campbell-Ewald Co. Advertising Agency, has just returned from overseas duty.

* * *

Palmer Terhune Joins Rankin Agency.

After several years in the Maxwell-Chalmers advertising department, Palmer Terhune has accepted an important position with the Wm. H. Rankin Co., advertising agents. Temporarily he will be in the Chicago office, going later to the New York branch. Previous to joining the Maxwell organization he had been a number of years with the former Van Cleve agency, where he acquired his preliminary training.

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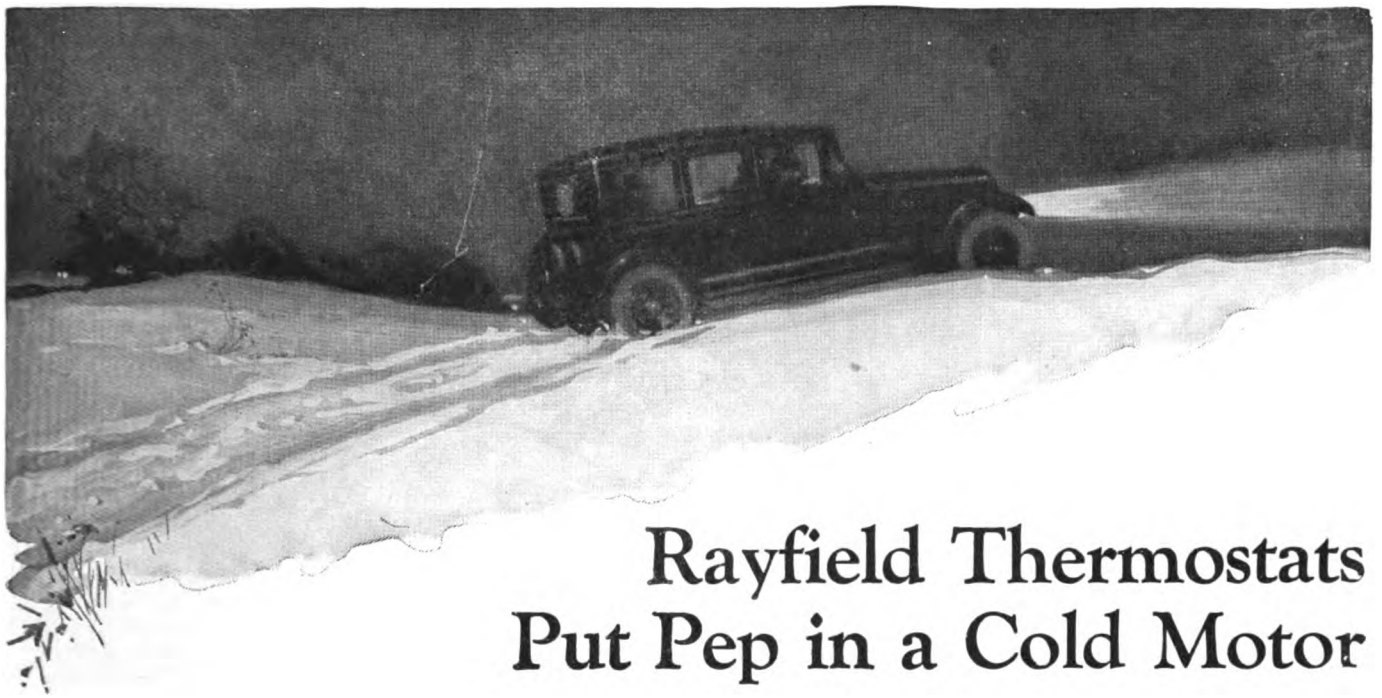
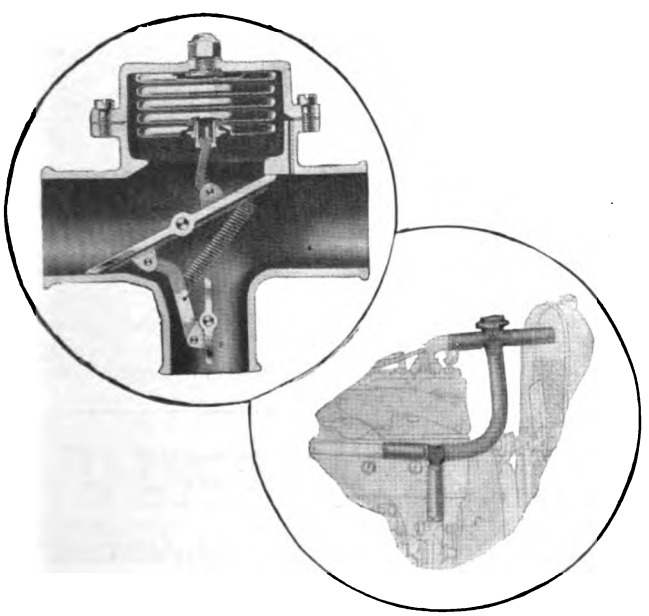


Rayfield Thermostats Put Pep in a Cold Motor

Your motor will "warm up" quickly in the coldest weather with a Rayfield Thermostat. It will stay warm longer when the car is standing. This insures easier starting.

In short, the Rayfield Thermostat will do away with many of the troubles encountered in winter driving.



The Rayfield Thermostat produces these results by controlling the circulation of water through the motor block.

It is easily installed at the top of the motor between the motor block and the radiator. When you start your engine the valve in the thermostat cuts off the circulation of the water from the radiator. In a minute or two the water in the motor block is warm and the engine is running smoothly. Then the valve opens gradually, letting in cold water from the radiator just as fast as it can be warmed to the proper temperature.

There is no hesitation or delay. The car runs smoothly from the first.

Rayfield motor thermostats may be obtained from the Rayfield Service Station in your city or from your dealer. If they do not have them in stock, write us direct.

BENEKE & KROPF MANUFACTURING CO.
21st and Rockwell Streets, Chicago, Illinois

11

RAYFIELD MOTOR THERMOSTAT

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SCORED CYLINDERS

Repaired by **"Lawrence Patent Process"** with Silver-Nickel Alloy, fused electrically. No warping or enlarging of bore. Same piston and rings fit. All work absolutely guaranteed. Reshipped 24 hours after received. Endorsed by all manufacturers. Also burnt and oil scores repaired. Plants in all principal cities.

Established 1862
L. LAWRENCE & CO.

SAN FRANCISCO, 116 Hyde St. — LOS ANGELES, 1030 South Grand Ave.

All infringers will be prosecuted to full extent of the law.

Statement by Goodyear Company.

In his recent statement of Goodyear business and earnings, President Seiberling predicted that 1920 will be the largest year both in volume of business and profits in the history of the company. It is estimated that gross sales for the current year will exceed $165,000,000. This compares with $131,247,382 for 1918. Net earnings for the full year 1919 are estimated at $20,000,000 before allowance for Federal taxes. Last year net earnings before Federal taxes were $15,388,190.

In the last twelve years Goodyear has earned a total net income of $73,476,879 from which it has paid $20,540,178 in cash dividends. The balance of over $52,000,000 has been put back into the company.

Due to Government restrictions, the low point in production for 1918 was reached in November. At that time there were about 14,000 men employed and they were turning out about 11,000 tires a day. Volume of business was then running in the neighborhood of $8,000,000 a month. At present the company employs about 26,000 men at its Akron plants, making more than 30,000 tires a day, and gross business for October approximated $20,000,000.

Beginning November 1, the parent Goodyear Company turned over to the California company its established business in a great group of Far-western states, and Hawaii, and pending the completion of the Los Angeles plant will supply the new company with goods at wholesale, the profits from which will be credited to the earnings of the Pacific Coast organization.

At the same time, following a successful selling campaign for the parent company's 7 per cent first preferred cumulative stock, bankers put on the market $40,000,000 more of the authorized $100,000,000 issue at par and accrued dividends, callable at 110 and dividend. This is issued to retire $23,000,000 first preferred stock at 112 and $13,000,000 second preferred at 105. The $20,731,000 of common outstanding is selling at about $400 per share.

ROBERT M. SANDERSON,
General Supt. Amazon Tire & Rubber Co., Akron, O.

* * *

Stutz Expects $7,000,000 Sales.

The Stutz Motor Co., of Indianapolis, Ind., handled a volume of sales amounting to $3,674,000 during the six months previous to July 1 this year. Estimated on this basis, sales for the entire year are expected to be around $7,000,000.

Liberty Plans for 12,000 Cars.

The Liberty Motor Car Co., of Detroit, Mich., is one of the few automobile companies that have produced successfully an assembled car. The Liberty Six is built of parts manufactured by specialists on that particular product. The Continental engine is used as the power plant and the other parts are furnished by makers who lead in their field. Production of between 400 and 500 cars a month is now being maintained by the company, and with the completion of its new plant it contemplates an output of 12,000 cars during 1920. The officers of the company are Percy Owen, president; A. I. Lewis, vice-president; D. E. Williams, secretary, and H. M. Wieth, treasurer.

* * *

Tire Filler Industry Convention.

The second annual convention of the American Tire Filler Industry (Inc.) will be held in Chicago in the Green Room of the Congress Hotel from November 15 to November 18 inclusive. At this convention tire filler manufacturers will discuss important questions appropos of the automobile industry and particularly the abuse of roads from excessive vibration caused by solid rubber tires.

* * *

Young Girl Heads Essenkay Advg.

Miss Theresa Hegeley, has just been made advertising manager of the Essenkay Products Co., 222 W. Superior Street, Chicago. She is but 21 years of age, and is the youngest advertising manager in the automotive industry.

TIRES.

TIRES 1/3 LESS

Perfect, new tires, all sizes, non-skid or plain, fabric or cord. Prepaid on approval. 8000 to **10,000 Miles Guaranteed**

30,000 Customers. Catalog Free. Agents Wanted.
Service Auto Equipment Corporation
994 Service Bldg., Kansas City, Mo.

AUTO WINDOWS.

MOTORLIFE
TRADE MARK REG.

Saves 25% to 50% Gasoline, removes carbon, produces motor efficiency and completes lubrication.

Motorlife is guaranteed harmless to any motor, under all conditions and in any quantity.

Purchase price refunded if Motorlife does not prove satisfactory.

Motorlife must eventually become part of your equipment. Why not now?

M. F. ENDERLE, So. Cal. Dist.,
306 California Bldg., Los Angeles, Cal.
W. H. A. SHERMAN,
Los Angeles Co. Agt., Phone Main 3903.

REAR SIGHT MIRROR.

"COP-SPOTTER" Rear View Mirror

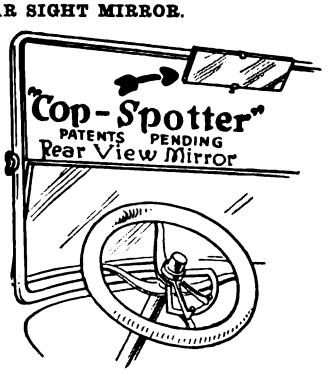
INDISPENSABLE FOR CLOSED CARS.
The only style of mirror that gives a full reflection of the road behind through the rear window.

PRACTICAL FOR THE OPEN CAR.
The reflection is in full view without removing the eyes from the approaching traffic.

ATTRACTIVE FOR ALL CARS.
Made of best quality plate glass, in finely nickel plated frame, mounted at the most sensible place for a mirror, IN FRONT OF THE DRIVER, NOT AT ONE SIDE. Vibration proof.

BERGER & CO.
Manufacturers and Distributors
Black Building Los Angeles

REAR SIGHT MIRROR.



Retails at $3.50.
Ask Your Dealer or Jobber.

ACCESSORIES

UNIVERSAL AUTO WINDOWS.

Made of polished plate glass, frames heavily nickeled on brass for both sides of curtain. Up-to-date top shops are using them. Send for circular showing styles and price list.

HARRY M. WATERMAN, Distributor
1311 So. Figueroa, Los Angeles, California.
Phone, Main 3123.

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GILL
The Perfect One Piece Piston Ring

"Here Is the Piston Ring I Recommend"

The garage man says this with an accent of pride when he holds out a Gill Piston Ring towards the customer. He knows the Gill Ring only has to be shown to convince that it is the "perfect one piece piston ring." There is no argument necessary, one look at the double step interlocking joint and anyone with even the slightest mechanical knowledge can see that it is head and shoulders above any other ring on the market.

Just think for a moment. The Gill Piston Ring allows an expansion of from $1/8$" to $3/16$" without any loss of compression and at the same time has all the advantages of a one piece ring. Made from single piece castings of the finest gray iron and machined to absolute accuracy. The easiest ring on the market to install, the easiest ring on the market to sell.

Send for the new Gill Piston Ring Size Directory, complete, convenient, and full of just the information you need. It is free to the trade.

Dealers—Ask your jobbers about them
Jobbers—Write to us for information

The Gill Manufacturing Company
351 West 59th Street, Chicago, Illinois

Sole Foreign Agents:
AUTOMOTIVE PRODUCTS CORPORATION
Woolworth Building, New York, N. Y.

Pacific Coast Branches:

Gill Piston Ring Co.
1313 S. Figueroa St.,
Los Angeles, Cal.

Gill Piston Ring Co.
803 Van Ness Ave.,
San Francisco, Cal.

Gill Piston Ring Co.
723 E. Pike St., Seattle, Wash.

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All S. R. B. Plants Combined.

Due to the great and growing proportions of the manufacture and sales of S. R. B. bearings, all the Marlin-Rockwell properties producing them have been combined into a new operating organization known as the Standard Steel & Bearings, Inc. The constituent plants are the Standard Roller Bearing Co., the Braeburn Steel Co., the Rockwell-Drake Bearings Division, the Willow Street & Hamden Divisions and the Norwich Division.

* * *

Re Vere Gets Large Funds.

The Re Vere Motor Car Corp., of Logansport, Ind., has concluded contracts with Eastern capitalists and L. M. Rankin, of New York City, for the sale of several thousand Revere cars within five years. Ample capital has been placed at the disposal of the Revere to put it in the first rank among passenger car makers. L. M. Rankin and George Walter will distribute the car in the United States and other countries. In New York City they have already formed a $150,000 distributing firm.

* * *

Firestone Prizes for Ideas.

Firestone has 17,000 employes. In the first eight months of this year, these submitted 2542 ideas for production improvement. Approximately 11 per cent were adopted, earning $2798 in cash prizes, or $10 for about one out of every ten. More important, the plan increases creative energy and so makes workers' lives more interesting.

* * *

Spicer Buys Two Companies.

The Spicer Mfg. Co., a Virginia company, has purchased the Parish Mfg. Corp. and the Sheldon Axle Spring Co. The Spicer is the largest manufacturer of automobile universal joints and universal joint shafts in the United States. Parish is one of the largest makers of automobile and truck frames, and Sheldon is the second largest manufacturer of axles.

WALTER P. COGHLAN,
General Sales Manager Hammered Piston Ring Co., Baltimore, Md.

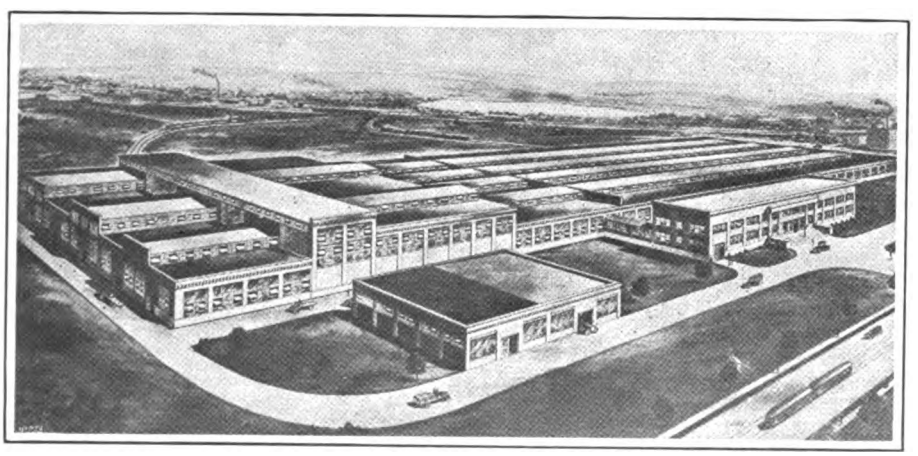
Coghlan With Hammered Piston Ring.

The American Hammered Piston Ring Co., of Baltimore, Md., has announced the appointment of Walter P. Coghlan as general sales manager. For the past five years Coghlan has been prominently connected with the Klaxon Co., of Newark, N. J., as sales manager. His name was synonymous with "Klaxon," and he originated the "Danger-Sound Klaxon" idea; "klaxon" later became a synonym for automobile horn.

* * *

Stutz Heads New Company.

Harry Stutz has re-entered the automobile industry with the formation of a new company, capitalized at $1,000,000 to manufacture a new car following plans already perfected. He heads the company as president; Samuel T. Murdock, vice-president; Henry F. Campbell, treasurer; and A. Gordon Murdock, secretary. It is planned to exhibit the new car at the coming national shows in New York and Chicago.



NEW $1,000,000 RIM PLANT OF THE FIRESTONE STEEL PRODUCTS CO., AKRON, O.

Ground was broken recently at Akron for an additional $1,000,000 plant in the group of Firestone factories. The new plant will house the Firestone Steel Products Co., which annually produces approximately 1,250,000 demountable rims for pneumatic automobile tires and 65 per cent of the steel bases used in the United States for solid truck tires. The main building will be 860 feet long and 250 feet wide. Immediately in front of the main building will be a two-story office building, 170 feet long and 40 feet wide. It will be connected with the main building by covered bridges. A cafeteria for the entire factory force will be housed in the basement of the same building.

Orders for 12,000 Gardners Filed.

Definite orders for more than 6000 cars have been turned down by the Gardner Motor Co., St. Louis, because of inability to fill them earlier than the latter part of next year, and this two months in advance of the time scheduled for the start of production. Applications which contemplated the sale of more than 12,000 of the Gardner Light Four had been placed on indefinite file, and applications for distributing territory rights from every State in the Union, are on the company's file.

* * *

Edward A. Cassidy Dies.

Edward A. Cassidy, president of the Edward A. Cassidy Co., of New York City, died recently from hemorrhages caused by extractions of teeth. He was a veteran in the automobile advertising field and was at one time connected with the F. Ed. Spooner Adv. Co., of New York City.

* * *

To Distribute Master Carburetors.

The Master Sales Corp., of Chicago, has been incorporated for $20,000, and will act as Master carburetor distributor throughout Illinois, Indiana and Iowa. William Tesnow is president; C. J. Abbott, vice-president and sales manager, and E. J. Morse, secretary and engineer.

* * *

Heads Perfection Tire in West.

W. B. Smith, formerly connected with the Goodyear in New York, has been appointed Western district manager of the tire department of the Nemours Trading Corp. He will direct sales of Perfection tires in a territory taking in thirty states.

* * *

Another Cadillac Man for Lafayette.

Edward Tucker, Jr., formerly associated with Joseph A. Schulte in the Detroit retail branch of the Cadillac Motor Car Co., has accepted a position with E. C. Howard of the Lafayette Motor Co., Indianapolis. Mr. Tucker has been a member of the Cadillac organization for six years with the exception of two years spent in the army. He served as first lieutenant in the American air service.

* * *

Radoye Haynes' Advertising Director.

Gilbert U. Radoye has been made director of advertising of the Haynes Automobile Co., Kokomo, Ind., according to A. G. Seiberling, vice-president and general manager. Mr. Radoye for the past year, in the capacity of advertising manager, conducted the successful world-wide advertising campaign to merchandise Haynes character cars.

* * *

Joins Stanwood Rubber Sales.

Tom Moore has joined the sales force of the Stanwood Rubber Co., Inc., of New York City, according to a recent announcement, pleasing and gratifying to his many friends in the Eastern automobile industry. His company is manufacturer of automobile tires and tubes and moulded rubber goods.

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Idaho tells us—

For the past eighteen months we have stocked your complete line of Graphite and Graphite Greases, and our business has multiplied rapidly, due to the fact that perfect satisfaction has been given to the users of Dixon's Graphite Greases.

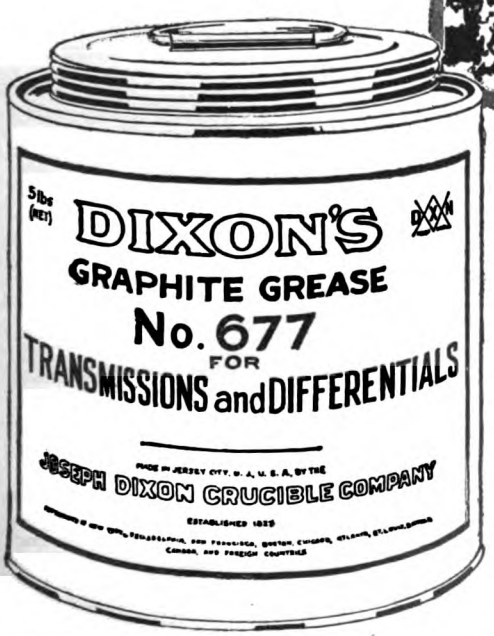
It is with pleasure that we can recommend Dixon's Graphite Greases to our customers on account of the satisfactory results obtained at all times.

Yours very truly,
BERTRAM MOTOR SUPPLY CO.
Boise, Idaho.

They always did know a good thing in Idaho, when they saw it

Write for booklet 50-G

JOSEPH DIXON CRUCIBLE COMPANY
JERSEY CITY, NEW JERSEY
Established 1827



DIXON'S
GRAPHITE
Transmission and Differential
LUBRICANT

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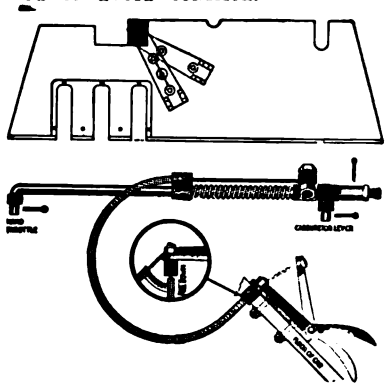
New Things in the Accessories Field

WILLIAMS ACCELERATOR FOR FORD CARS.

Drivers of Ford cars, especially now with the days of wet weather and treacherously slippery streets close at hand, will realize that there is a better way of driving the car than to have the right hand chained to a throttle lever, particularly in making a turn with cars in back that must be warned to avoid collision.



SECTIONAL VIEW WILLIAMS ACCELERATOR.

The Williams Accelerator for Ford cars gives a direct throttling action without the use of levers, ball and socket joints, which are ordinarily needed to make up a high-grade accelerator system. There are only three points of connection in the Williams system, these being for the hand and carburetor and on the floor of the car, making it very simple, efficient and positive-acting.

Both the hand and foot throttles operate the throttle valve of the carburetor. The hand lever stays where it is left; the foot lever closes the throttle when the foot is taken off it. The Williams device has spring action on the accelerator only. The spring closes the foot throttle, but the hand throttle does not work against the spring, allowing it to operate as easily as before attaching the accelerator.

Throttling-down adjustment is done through a single nut, which regulates down to 1/48 part of an inch. The Williams Accelerator is made in five types to fit, respectively, standard Ford cars, Fords equipped with Universal Distillate Burner, Fords with the Master carburetor; Chevrolet cars and Metz cars. The manufacturers are Williams Brothers Aircraft Corp., of San Francisco, Cal.

C-G-C GRINDER FOR CYLINDER BORING.

Re-boring and re-grinding engine cylinders is now a most important detail of the work done in garages and repair shops for the keeping in order of their customers' cars. A manufacturing firm of Portland, Ore., has lately come forward with a valuable grinding tool, the C-G-C Grinder. This device may be attached to any size of lathe, either motor-driven or steam-driven, and bores completely and accurately to the end of the cylinder.

The attachment consists of six simple parts. The grinding shaft is contained within a hollow projector, resting in babitted bushings at both ends of special resilient dust-proof construction. Tapering jaws hold the head bushing, keeping an even tension and preventing vibration in the grinding shaft. This shaft is driven by silent gear chains at any speed up to 5000 revolutions a minute.

The C-G-C Grinder is manufactured together with a special lathe by the Cylinder Grinder Corp., of Portland, Ore. With the special lathe plate and the C-G-C micrometer, a very efficient and rapidly working cylinder-grinding machine may be made, according to the manufacturers.

MERIT, NOT NECESSITY, SELLS GREEN-VISOR LENSES.

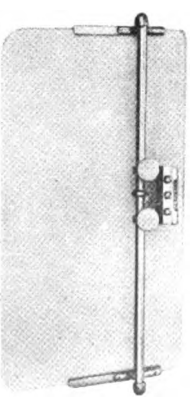
The new automobile headlight law passed at the last meeting of the California legislature makes it imperative that every automobile owner in California equip his car with a device approved by the state motor vehicle department.

Macbeth Green Visor Lenses are sold, according to their makers, the Macbeth-Evans Glass Co., of Pittsburgh, Pa., on their merits rather than on the sheer necessity of motorists, to obey the law.

These lenses are made by the same company who furnished the A. E. F. lenses which flashed the scientifically controlled light across No Man's land in France and detected German patrols. Marvelous lenses used in our lighthouses and mammoth mirrors used in the searchlights on American warships have behind them the same reputation as Macbeth Green Visor Lenses.

PACIFIC WIND DEFLECTOR.

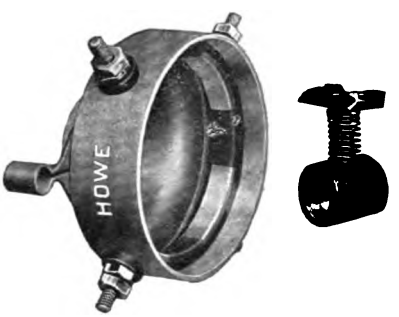
Change of season is emphasizing the popularity of wind deflectors, according to Mr. Blachley, of the Pacific Windshield Co., located at 814 So. Olive Street, Los Angeles. The motorist has been familiar with the advantages of this popular accessory for some time, and his constant favorable comment has been the means of creating inquiry from dealers and users from those parts of the Coast where they have not been so well known. The Pacific Wind Deflector is rapidly proving its individuality and popularity, as evidenced by the increasing number noticeable on the better class of cars throughout the West, and dealers are reporting very satisfactory sales in all parts of the territory. Its rust-proof and "tailored for each car" features are given as especial reasons for its appeal to the more particular car owner.



PACIFIC WIND DEFLECTOR.

HOWE TIMER ELIMINATES WEARING PARTS.

In the roller-contact type of timer for Ford cars the excessive use, or not enough, of oil and the wearing out of pins, rollers, etc., will cause trouble. The Howe Timer for Ford cars has not rollers or pins to wear out. It is of an entirely new design of timer, very practical and unusually free from complicated, delicate parts.



HOWE TIMER MAKES FORDS EASY TO START ON COLD MORNINGS.

No oil is needed in the Howe device. Therefore to start the Ford engine on a cold morning does not require 30 or 40 turns over of the engine before the oil and grease is heated up or softened enough to allow contact to be made. The distributing, or contact assembly, is made of only three parts. The best materials and workmanship obtainable will be found in the Howe Timer, according to the claim of the manufacturers, the Howe Lamp & Mfg. Co., of Chicago, Ill.

KAP ADJUSTABLE WHEEL LOCK.

The Kap Adjustable Wheel Lock clamps the wheel as well as the spoke, making it impossible for the would-be car thief to turn the lock by deflating the tire. The lock is manufactured by the Kap Mfg. Co., of 156 Second St., San Francisco, in two sizes, fitting tires of 3 to 3½ inches and 4 to 5 inches diameter, regardless of the style of tire or the make of car.

A reward of $150 is offered by the makers for the arrest and conviction of a felony of anyone, except the owner, operating the car with the Kap lock clamped to the wheel. It is made of special casting, plated, fitted with Yale lock; no two keys alike. The Kap Adjustable Wheel Lock for 3 to 3½-inch tires sells at $6; that for 4 to 5 inches at $7.

MICHON LIBERTY RIM—A CORRECTION.

In the October 15th issue of "Motor West" an error was made in terming the Michon Liberty Demountable Rim the Michigan Rim. The rim will be manufactured by the Michon Liberty Mfg. Co., of Toledo, O. J. H. M. Michon is the inventor. The Michon product has a wide rim of adaptability, being made to fit all Stanweld, Cleveland, Firestone and Kelsey types.

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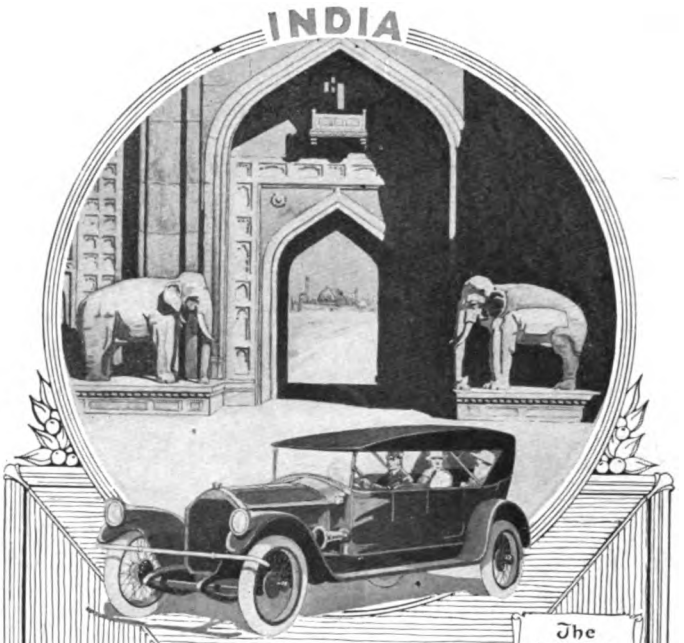
AUTOMOBILE tires, like eggs, are of several kinds,—good, bad and indifferent. The low-priced tire or the bargain egg may appear to offer a saving, but the fact remains that the man who buys the best is never sorry.



The Delhi Gate

Long wear can only be proved by long experience. The Pierce-Arrow Motor Company, for instance, has used

Genuine **Pantasote** Top Material

as standard equipment on Pierce-Arrow cars continuously since 1904. No top material is too good for your car.

Pierce Arrow	Reo Six
Scripps-Booth	Kissel
Paige Linwood	White
Premier	Cole
Hudson	Chalmers
Mercer	Columbia
Locomobile	Cadillac
ReVere	Cunningham

Look for Pantasote label inside the top—it protects you against substitution which is not uncommon.

The Pantasote Company
Bowling Green Building
New York

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SPARK PLUG CLEANER WORKS LIKE MAGIC.

The Champion "Minute" Spark Plug Cleaner is a handy little device that has simplified and quickened the work of cleaning spark plugs. It is manufactured by the Champion Spark Plug Co., Toledo, Ohio, makers of the world-famous brand of spark plugs bearing that name.

Before this cleaner came on the market, the job of overhauling and putting into shape a set of fouled plugs was a task that few men cared to undertake the second time. It was a long, tedious job to begin with and, even under the most favorable conditions, a dirty one. The Champion "Minute" Cleaner will accomplish in a few minutes the same results that formerly took possibly an hour or two of valuable time.

The Cleaner consists of a heavy moulded glass tube six inches long, one end of which is open and fitted with a rubber bushing into which the spark plug is screwed. Inside the tube are fifty loose, hardened steel needles that serve as the carbon removers.

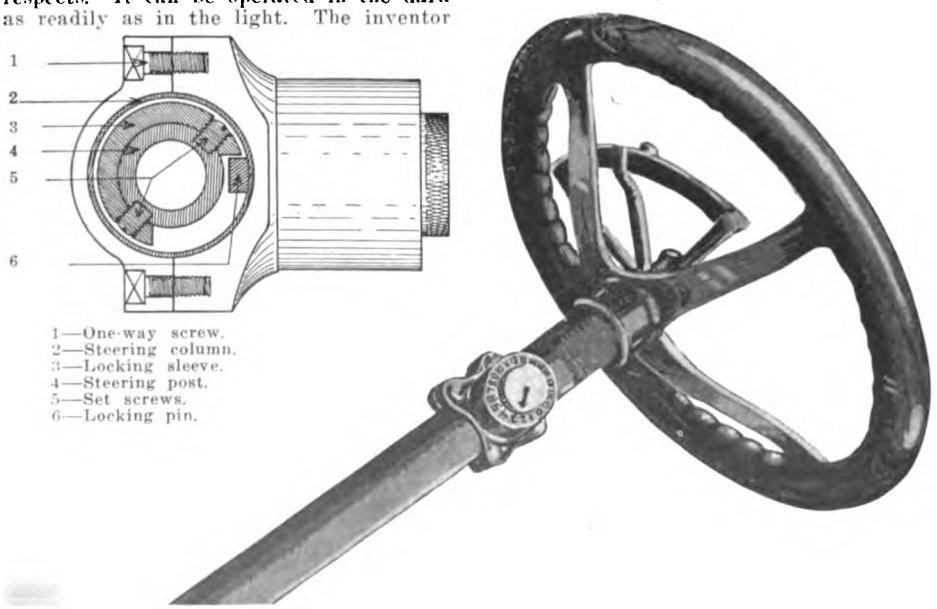
To clean a plug, the tube is first half filled with gasoline or better still a like amount of Johnson's Carbon Remover. The Johnson product is superior to gasoline in that it is made specially for the purpose of removing carbon deposit. The plug is then screwed into the bushing and the tube shaken up and down for a minute or two. The action of the needles loosens up the carbon, while the liquid washes it away and dissolves the accumulation of oil.

ABLE COMBINATION AUTO LOCK.

The Able Combination Auto Lock, made by the Able Mfg. Co., 731 Folsom street, San Francisco, is a new locking device which has just been placed on the market. It has been made standard theft protection by the recent approval of the National Board of Fire Underwriters of America, and the inventor claims that it is the last word in auto theft protection. It may be described as a multiple disc combination lock attached to the steering column, locking the front wheels at an angle so that the car can neither be driven nor towed away. It has a number of novel and interesting features. It is unlike other combination auto locks in several respects. It can be operated in the dark as readily as in the light. The inventor says that the combination cannot be discovered by the sense of touch, no matter how delicate that sense can be.

Another novel feature, and one that attracts a great deal of attention, is the patented screw called the "One Way Screw" by which it is attached to the steering post. This screw can be screwed up but not unscrewed.

The lock is simple, durable, attractive, easy to operate and should readily become popular with the automobile public. It is listed at $15, installed.



ABLE COMBINATION LOCK ATTACHED TO STEERING POST. SECTIONAL VIEW OF LOCK INSTALLED.

ADVANCE ANNOUNCES NEW DEALER HELPS.

The Advance Automobile Accessories Corporation, Chicago, makers of White Stripe and Advance Cork Insert Linings, have just brought out three new and attractive "Dealer Helps." One is for Advance Cork Insert. It is 9x12 in size, effectively lithographed in red and black. The hand holds an actual piece of Cork Insert Lining. An equally effective card is out for White Stripe Lining. The carton and lining are well displayed. This card is printed in three colors, and is immensely popular with dealers.

A new window display is the third item. It is a gigantic carton of Advance Cork Insert Lining—four feet high and three feet wide, lithographed in three colors—showing the lining and corks in natural colors. This large display is mounted on very heavy stock and has substantial easel. Any of these cards are supplied to dealers, free of charge.

RENOVATING TOPS—SIDE CURTAINS —CUSHIONS.

The top and side curtains get particularly hard wear. They are subject to the hot rays of the sun, the dust, water, and soon get gray, dusty-looking and leaky. One coat of Johnson's Black-Lac will give them a rich, black, waterproof finish—just like new. It goes on easily and quickly without a lap or streak and does not rub off on the hands or clothing. This compound, which is manufactured by S. C. Johnson & Sons, Racine, Wis., is unequaled for blackening fenders, tire rims, running boards, hoods, radiators, guards, lamps, and, in fact, all worn metal parts. It prevents rust and keeps one's car in a high state of repair.

S. C. JOHNSON HAS VARIED LINE.

We hear much nowadays on the subject of rejuvenation, or the secret of becoming "young again." When he buys a car the owner takes two lives in his hands and the car becomes a part of his daily life. He must uphold its dignity, for his own sake, and S. C. Johnson & Son, of Racine, Wis., have recently come forward with advice on ways and means.

"Keeping Your Car Young," is the title of the well-appointed booklet issued by the company. The removal of scum, road oil and grease from the car body is achieved with the use of Johnson's Cleaner; while a dust-proof polish results with Johnson's Prepared Wax. Revarnishing may be the only remedy; this is done with Johnson's Auto-Lak. Johnson's Black-Lak renews tops, side curtains and cushions.

Carbon formation, the curse of gasoline engines, is overcome with Johnson's Carbon Remover. Squeaking springs are another evil, which vanishes with the use of Johnson's Stop Squeak Oil. All rubber goods, which includes casings, tubes and automobile tops, may be cured with Johnson's Hastee Patch. Winter's perils for the radiator are done away with by Johnson's Freeze-Proof.

SCHRADER QUICK-ACTING DUST CAP.

The firm of A. Schrader's Son, Inc., is bringing out a new patented quick-acting dust cap which, besides being easy and rapid in detachment, possesses the additional quality of being highly ornamental. The new dust cap is made of brass drawn into a shell and has two lateral teeth or prongs made of tempered steel which fasten into the thread of the valve-stem.

There is no screwing or turning of the cap to engage the thread of the valve-stem. You simply slip the cap over the valve-stem as you would slip a thimble over your thumb. The entire operation of putting on or taking off the new dust cap occupies less than two seconds. Because of its clean lines and high nickel finish it will make a special appeal to motorists who are fastidious as to the appearance of their cars. The retail price is 50 cents or $2.50 for a set of five.

MARION AUTOMATIC COMBINATION AUTO JACK.

The small size emergency type of automobile jack is a very unstable and uncertain device for use in cases of making repairs on the car. Marion Jacks are claimed by the makers not to topple over, nor allow an automobile to slip or fall during the course of operation.

A lifting jack, a turn-table, a tire-rest and a transportable truck are all combined in the Marion device. Marion Automatic Combination Auto Jacks are put forward a indispensable in display rooms, repair shops, automobile painting shops and public and private garages. A car can be shifted in any direction, or turned completely around in its own length. It can be raised from 9 to 22 inches off the floor, which enables the person underneath to sit upright while working. Unsanitary working pits are thus done away with.

The Marion Malleable Iron Works, of Marion, Ind., are the manufacturers. Their jacks cost $30, less consumer's discount, and are sold direct or through the principal automobile accessory jobbers and dealers everywhere.

MOTOR WEST reaches a larger percentage of dealers than any other automobile publication circulated on the PACIFIC COAST.

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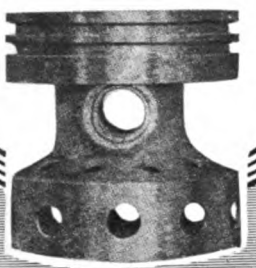
ZEPHYR PISTONS

(PAT.)



DURABILITY POWER SPEED ECONOMY

ZEPHYR pistons hold many records of world interest since 1910 when they established world's record of 100 miles per hour for three consecutive hours.

ZEPHYR pistons were used in the Atlantic flight by Alcock-Brown, also in the R34 in its 6,000 mile flight from England to America and back.

The World's Best Piston Since 1910

The Wridgway Company Inc.

HALLSTEAD, PENNA.

Send for Booklet

DURABILITY POWER SPEED ECONOMY

U.S.PATENT 975301

Economy Tire Cover

An Advanced Step in Merchandising Tire Covers

MADE in *standard sizes* to meet every service and demand. A tire cover created that is *profitable* to the dealer. A tire cover that decreases the dealer's overhead by reducing the size of his stock—speeds up his turnover—increases *his profits.* The Economy revolutionized the tire cover business by turning a novelty into a *standardized staple article*—an every day commodity.

If your jobber has not told you of *Economy Tire Covers* write us *today* and we will forward complete information by return mail.

The Economy Tire Cover Co.

1319 Margo Street Los Angeles, California

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Automotive Equipment

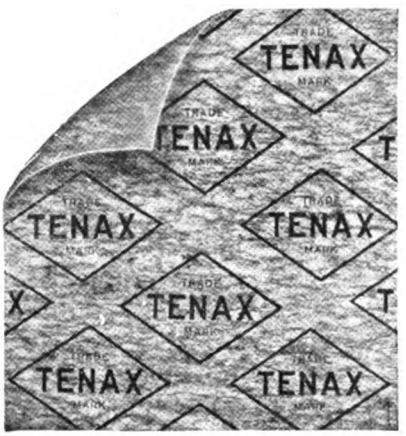
and Asbestos Products

—Greater Service at Less Cost—

We render a degree of service and supply a quality of material that bring our customers back year after year and that explains our supplying America's most desirable automobile, tractor and engineering trade. You will enjoy with us, a more reasonable price and better satisfaction than you have ever before received.

TENAX Compressed Asbestos Sheet Packing

The Original Blue Sheet



Ideal for any joint. Tenax is permanent whether subjected to gas engine exhaust, cylinder explosions, acid, alkali, superheated steam or any other active agent. Can't burn, rot or squeeze out.

The finest packing made for Automobiles, Tractors, Gas Engines and Steam Engines.

Sheets 50 inches square. Thickness 1/32 inch to 1/8 inch, inclusive. Also in 1/64 inch thickness in black graphited sheet only.

Pack with Tenax and forget the joint forever.

Adpasco Treated Gasket Paper

SUPPLIES A NEED—MEANS A SAVING

A thoroughly waterproof paper toughened and especially treated to make it excellent for all automotive uses except in contact with burning temperature. A big value for general use around garages and shops.

Cuts up easily with no waste and holds its shape even after a water or oil soaking. Stands up indefinitely and is permanent in the hands of a good mechanic.

Sheets 36 in. by 40 in. Samples on request.

ADPASCO TREATED GASKET PAPER

YOUR OWN JOBBER

can supply you. Ask him for our products or write us direct for name of nearest jobber.

Get Our New Automotive Supplies Catalog From Your Jobber or from Us.

Advance Packing & Supply Co.

17 N. Franklin Street, Chicago, Ill.

Allied Industries, Inc., Pacific Coast Representatives:

283 Minna St., San Francisco, Calif.
340 Azusa St., Los Angeles, Calif.
1252 First Ave., So., Seattle, Washington.

Seattle, Wash.—The Motor Products Sales Co., headed by Kenneth McAlpin, has located temporarily at 806 E. Pike St.—A. W. Plympton, 1211 E. Pine St., has taken the King Eight service agency for Seattle.—F. W. Lott, automobile painter, has reorganized his business, changing the name to F. W. Lott & Sons.

Spokane, Wash.—Former Sergeant L. L. Roberts has been appointed sales manager of the Kearns Motor Sales Co., Lexington, National and Traffic dealer.

Eureka, Utah—O. H. Coleman has sold his interest in the Tintic Garage.

Brigham, Utah—The Larsen & Peters Garage has been opened here by C. S. Larsen and G. N. Peters.

Pocatello, Ida.—The Bannock Auto Co. has been formally taken over by Drew W. Standrod, Jr., who has had practical control since last July.

St. Anthony, Ida.—F. S. Adam has bought the interest of W. E. Bills in the Fremont Auto Co.

Billings, Mont.—J. E. Dundon has leased the repair department of the Sunset Garage, taking entire charge of this end of the garage's business.

Portland, Ore.—The Multnomah Tire Co. has been incorporated for $5,000 to do a general business in automobile accessories.

Pendleton, Ore.—The G. W. Bradley Tire Co. has been bought by G. W. Gertson and Robert Marty.

Oregon City, Ore.—The Clackamas County Auto & Tractor Co., which recently took over the Farley Auto Sales Co., has been incorporated for $15,000 by J. S. Risley, Ralph W. Risley and M. T. Ryan.

El Centro, Cal.—Leach & Ducold have taken the Grant car and Grant truck agencies.

Atascadero, Cal.—Kauffman & Murray, of the Atascadero Garage, have taken the Victor tire agency.

Salinas, Cal.—I. V. Vollmer has taken the Chalmers car agency.—C. H. Bullene, twelve years a Buick dealer, has retired; his son, Leo S. Bullene, succeeds him.

Lemoore, Cal.—Byron & Son will have a two-story brick garage erected for them.

Porterville, Cal.—Milton Shry has purchased the interest of his partner, Frank Lalanne, in the Lalanne Vulcanizing Works, whose name will be changed to Superior Vulcanizing Works.

Sacramento, Cal.—The Palmer & Arnold Co. has been formed here and will take over the agency for Nash cars and trucks.

Chico, Cal.—J. H. Sauer, of the Automotive Electric Service, has taken the Butte County agency for the Stromberg carburetor.—Fred L. Parker has taken the Avery tractor agency.—Jack Lane has opened here with the Lexington, Allen and Roamer car agencies.

Riverside, Cal.—The new garage to be built for Theodore Crossley will cost $15,700.

Anaheim, Cal.—W. E. Alexander, Jr., has taken the agency for Westcott and Allen cars in Orange county.

Mesa, Ariz.—The Ford Garage has been bought by Albert Tono and Charlie Balkely.

Nogales, Ariz.—The Southwest Auto Co., of Tucson, has opened a branch battery and electric service station here.

Albuquerque, N. M.—The Hudson and Essex agency and the Elkins Garage has been bought from E. B. Elkins by Paul Doran.

Grass Valley, Cal.—Thomas R. Owen has bought the O. K. Garage.

Roseville, Cal.—James P. Bollinger has bought entire ownership of the Roseville Auto Sales Co.

Oakland, Cal.—The Samson Tractor Co. of California has been authorized by the State Corporation Commissioner to issue one share to each of its five directors and 995 shares to the Samon Sieve-Grip Co. in exchange for all the assets of the latter company.

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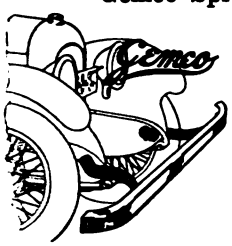
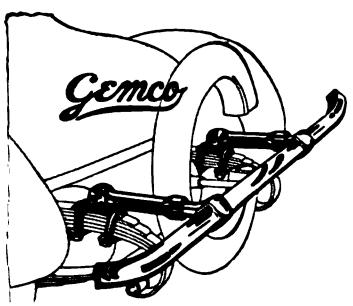
Gemco Spring Channel Bumper



For front and rear of standard cars. Combines the neatness of the Channel Bar with efficiency of Curved Spring Brackets. List prices, Nickel Finish, $10.54; Black Finish, $9.48.

Gemco Fender Pan Bumper

For those who prefer enclosed spring brackets. Readily attaches to standard cars, front and rear, without interfering with splash pans or fenders. Either Diamond or Channel Bar. List prices range from $9.00 to $13.50.



Rear Clamp-On Bumper

Made of a combination of brackets and sleeves to suit varying conditions. For cars with 3/4 elliptic or semi-elliptic springs. Extra long and offset sleeves furnished where tires interfere. Either Diamond or Channel Bar, black enamel or nickel finish. List prices range from $8.50 to $13.75.

When He Asks for Bumpers

Point out the Curved Spring feature of the new Gemco Collision-Proof Bumpers. Show him how the live, supple, curved springs take up all the force of the collision and protect both car and bumper from injury.

These bumpers are helping hundreds of dealers to build up a permanent, satisfied trade. Are YOU neglecting this opportunity? If your jobber is not stocked, write direct to us for dealer's proposition.

Jem Coe, the Cop, says:

"One bumper is not enough. Even the experts get their bumps and it is just as necessary to have a bumper in the rear as in front. Sell two bumpers to a customer and make two profits while doubling his protection."

Gemco Manufacturing Co.
725 So. Pierce Street Milwaukee, Wis.

HI-TEST
LUBRICANT
is solving TRANSMISSION *and* DIFFERENTIAL DIFFICULTIES

PROOF

not one complaint in thousands of users!

SERVICE STATION
Smith's Service Station
91 12th Street
Oakland, Calif.

MANUFACTURERS
United Products & Sales Corporation
512 Second Street :: San Francisco, Calif.

SERVICE STATION
Essex Garage
819 Ellis Street
San Francisco, Calif.

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The Majestic Electric Radiator and Engine Heater

No More Trouble in Starting on Cold Mornings

The MAJESTIC keeps your engine warm throughout the coldest nights—can be attached to any electric light socket—hangs from the radiator cap and sends a continuous stream of hot air through the radiator to the engine—will keep all the water within the cooling system warm in the coldest weather.

The Majestic Electric Radiator and Engine Heater is

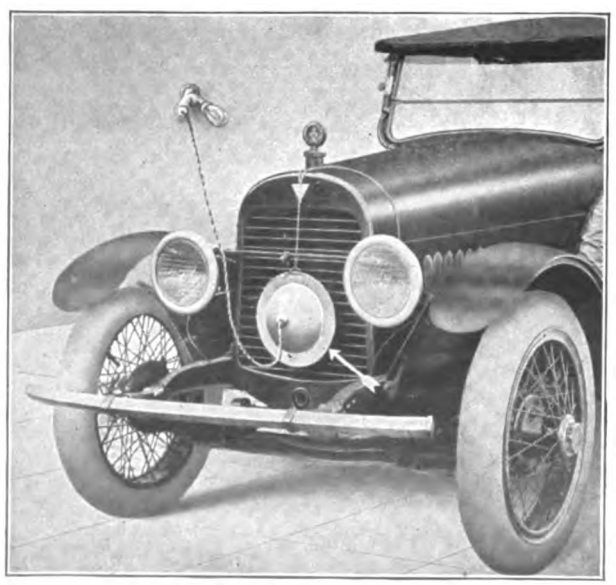
PRACTICAL—ECONOMICAL—EFFICIENT

The back is of steel, the parabolic reflector of pure burnished copper. It consumes but 200 watts per hour. Price complete with adjustable chain hanger, 8-foot cord and plug $7.50

Majestic Electric Development Company

656 HOWARD STREET, SAN FRANCISCO.

SUPPLY HOUSES AND GARAGES: The field for Majestic Electric Radiator and Engine Heaters is wide open Write for particulars



San Francisco, Cal.—The Pacific Nash Motor Co. has located its new retail service department for Nash cars in temporary quarters on Polk St.; Jack Hodgson has charge.—A half interest in the Franklin Tire & Vulcanizing Co. has been bought by A. Besso.

Watsonville, Cal.—The Covell Garage has been sold by John Covell to O. L. Bailby, M. R. Rodgers and R. J. Stewart.

Martinez, Cal.—The Martinez Garage & Machine Shop has been bought by Lee Stoll and A. L. Stoll.

Vallejo, Cal.—William Sauer and Robert Morris have bought the business of the Vallejo Garage.—The Solano county agency for the Franklin car has been taken by Tony Mufich.

Byron, Cal.—Walter Wayne has taken the Chevrolet agency here.

Vacaville, Cal.—Graham & Blackwell have taken the Solano county agencies for Marmon, Chandler and Chalmers automobiles.

Arcata, Cal.—The Briscoe agency has been placed with Sam Beer.

Selma, Cal.—The Selma Auto Electric Shop, owned by Earl McCrory, John Christensen and Arthur Jensen, and the O. K. Vulcanizing Shop, owned by W. W. Lusk, have consolidated to form the Selma Auto Electric & Tire Shop; they will erect a new $5,000 building here.

Brawley, Cal.—A new concrete building, costing $9,000, will be erected for the Valley Auto Electric Co.

El Centro, Cal.—The Imperial Valley agency for Garford trucks have been taken by William I. Perry.—The Cadillac agency will have a new $15,000 building erected for it.—United States tires will be sold throughout the Valley by the Imperial Valley Hardware Co. through four branch stores.

Blythe, Cal.—To the Essex agency West & Richards have lately added the Maxwell car agency.

Corona, Cal.—The Grace Motor Car Co., Dodge car, Republic truck and Bear Cat tractor dealers, have added the Grant car.—The Corona Sheet Metal Works has located its radiator building and repairing business on West 6th St.—O. R. Vanderhoof, handling automobile tops and accessories, has added Norwalk tires.—Coates & Albright have opened a garage on Main St.

San Bernardino, Cal.—Rudell Brothers will erect a concrete building on H St. for their business, the Maxwell agency.—Art Hansen, Essex dealer, has opened salesrooms on E St.—V. E. Hulce & Son are now agents for International Harvester products, P. & O. Plows and McCormick farming machinery.

Riverside, Cal.—Chatham & Snyder have added Thermoid tires at their oil supply stations.

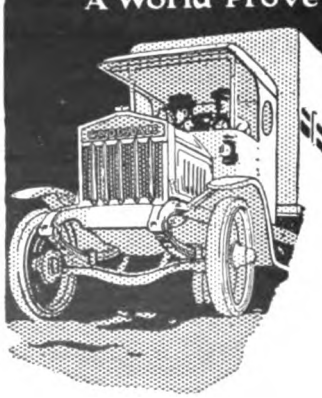
Upland, Cal.—A. F. Riley has taken the agency for Mitchell and Chalmers cars.—J. Lynward Grahame has opened an oil supply business on Second Ave.

San Dimas, Cal.—The Culver Garage has been opened here by Culver & Pettis.—J. S. McIntyre now operates the San Dimas Garage, agency for Overland and Ford cars.

Redlands, Cal.—Ray Johnson has opened the Ray Ignition Works, declared to be the most complete and finest ignition shop outside of Los Angeles.—Howland & Holliday are now manufacturers of automobile seat covers and cushions.

CLYDESDALE

A World-Proven Motor Truck



The superstandard construction of the Clydesdale, with its oversize and overstrength parts, and its excess power has made it famous in thirty countries, from Iceland to Africa, in all climates, on all varieties of roads, with all sorts of drivers.

One to Five Ton Capacities.

Clydesdale Motor Trucks

Built in Clyde, Ohio

Puget Sound Motors Co., Tacoma, Washington.
Rochester Motors Co., Spokane, Washington.
Pacific Motor Truck Co., Los Angeles, Cal. (11)

Clyde Cars Co. Factory Branch: 1217 Market St., San Francisco

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PORTAGE TIRES

Absolute Satisfaction

CORD AND FABRIC

Not the Cheapest in Price, but the Best in Service

FACTORY BRANCHES

745 Mission Street
San Francisco, Cal.

410 West Pico Street
Los Angeles, Cal.

PARAB-O-LIGHT

THE LENS THAT'S RIGHT

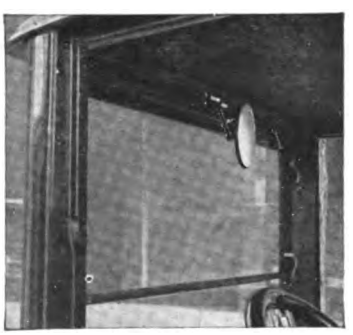
TESTED AND APPROVED IN CAL.

DO NOT ACCEPT A SUBSTITUTE
Insist upon getting the Parab-o-light

The J. D. French Company
30-32 Davis St., San Francisco
Pacific Coast Distributor

Price per Pair.....$3.25 to $4.25
Manufactured by **THE ZORGER LENS CO.,** *Inc., Champaign, Il*

Hindview Auto Mirrors



STYLE "B"

Hindview

FOR INSIDE OF CLOSED-BODY CARS.

JUST WHAT MOTORISTS HAVE BEEN LOOKING FOR.

Style "B" is inside—out of the weather—nearer to the driver's eye and gives a vision directly in back of the car.

It is fastened by wood screws to the roof, or frame of front window, on the inside of Closed-Body Cars.

Has ball joint and is furnished in all standard finishes. Lens mirror recommended due to limitation of view through rear window.

Send for Folder No. 19 describing the entire line.

A. E. MOHRIG, 340 Phelan Bldg., San Francisco, Cal.
Pacific Coast Representative

Kales Stamping Company

444 West Lafayette Blvd. DETROIT, MICH.

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L. S. LUARD H. A. McMULLEN

Olive Street Garage

Authorized Rayfield Factory Service Station.

RAYFIELD CARBURETORS SERVICE STATION

OPEN DAY and NIGHT.

Tow-car service at any hour.

Repair Shop in connection.

846 South Olive Street, Los Angeles

Automatic 61009. Main 7227.

EISEMANN MAGNETO

Powerful Durable Dependable

Standard Equipment of 140 Manuf'turers

The Eisemann Magneto Corporation, 32 33rd St., Brooklyn, N. Y.

Chicago, 910 S. Michigan Ave. Detroit, 85 Willis Ave., West.

THE World's Best Book on Motor Car Electric Systems, Electric Testing, Elementary Electricity, The Gas Engine from an Ignition Point of View and Driving the Car. 1919 Edition now ready. Special sections covering Packard, Dodge, Hupp and Maxwell Systems: Over 525 circuit and wiring diagrams up to date. 500 pages. Price $2.50 Prepaid. Order today. We also manufacture Electric Testing Instruments for Garages. Catalogue free.

H. E. PHILLIPS & CO.

(Formerly at Dayton, Ohio.)

Union City, Indiana

A PEX Motor Oils

THE HIGHEST POINT OF EFFICIENCY

Gasoline "with the Punch"

PUENTE OIL CO.

Oldest Refiners and Producers on the Coast

Los Angeles, Cal.—As newly appointed distributors for the Holmes car, Rea & Krohn have located temporarily at 831 S. Los Angeles St.—F. C. Gorham, automobile dealer, will locate in a building to be erected at 132 W. Pico St.—G. A. Eichelberger & Co. have incorporated for $50,000; the incorporators are Eichelberger, Arthur L. Eaton and Walter H. Sprague.—The Warner Tire & Rubber Co., factory branch, has been opened at 1244 S. Grand Ave.

Garden Grove, Cal.—Pearson & Butler have taken the Oldfield tire agency.—Hammet & Burke have bought the Garden Grove Garage.—The C. A. Emerson Hardware Co. has added the Dreadnaught tire line.

Santa Barbara, Cal.—A. C. Dinsmore has taken the Fisk tire agency here; he will operate it separately from his older business, the Commercial Motor Service Co.

Bakersfield, Cal.—George Elliott will have a new automobile sales building erected for him on Chester Ave., to cost $46,000.

Planada, Cal.—The Fig Belt Garage has been opened by Jack E. Simmons.

Visalia, Cal.—Ruhl & Trowbridge have taken over the Reo and Dort agencies.

Modesto, Cal.—C. C. Parks is planning enlargement of his garage to the extent of $10,000.

Merced, Cal.—Harry Doyle is erecting a one-story brick sales building to cost $10,000.

Toppenish, Wash.—The G. M. C. Garage has moved into its new building, where it will handle Buick cars and G. M. C. trucks under the firm name of the Speck-Buick Co.

Wapato, Wash.—The Culver Garage has beeen bought from Frank Culver by Rivard Brothers and George Ley.

Chico, Cal.—The Central Garage has been leased by Jack Lane, dealer for Roamer, Lexington and Allen cars.

Porterville, Cal.—Kenneth Premo has taken the Tulare county agency for Graham Brothers trailers.

Ferndale, Cal.—George A. Peterson has become manager of the Ferndale branch of the Pacific Garage.—Karnbach & Henke will manage the Ferndale Iron Works Garage.

Tracy, Cal.—O. J. Anderson has opened the Central City Garage here.

Willows, Cal.—The Tenney & Schmidt Garage has been bought by Martin Murray.

Orange, Cal.—The Orange County Ignition Works, Inc., has opened one of the most complete Willard battery and ignition service stations in Southern California; it is Willard distributor for Orange county.—George Taylor has bought his partner's interest in Taylor's Tire Shop.

Anaheim, Cal.—The Auto Electric Maintenance Co. has opened a well-equipped Vesta and carburetor service station.—The Master carburetor is now sold locally by Irvin's Garage.—Robert D. Jensen has opened an electric and carburetor service station on Center St.—General vulcanizing and tire selling will be done by the Noll-Duckworth Co. here.

Santa Ana, Cal.—The Owl Auto Service Co. now handles Victor-Springfield tires.—H. S. Gilnett is now Oldsmobile dealer.—The K. & M. Auto Machine Shop has been opened by W. H. Shaffer.—J. Hadley has taken the Paige and Reo agencies for this section.—Charles L. Davis, Chandler and Cleveland dealer, is having a new building erected for him on N. Broadway.—H. D. Traveller & Son have opened on W. Fourth St. with the Orange county agency for Oldfield tires.—Daly & Co. are now top and body builders in their factory on W. Fourth St.—The Exide battery will be handled locally by the Kay & Burbank branch here.—The Studebaker agency is now with William F. Lutz.—Jack Olivarri's Tire Shop, partly burned during the recent big fire, has been re-opened.—The Overland agency here has been taken by Ash & Lindsey.—The Orange county agency for Nash cars has been taken by H. W. Walker.—Gerken & Kolbarg are now Buick dealers here.—The Orange county agency for the Franklin has been secured by Bob White.

NO CARBON - MORE POWER - LESS FUEL

Price 50c up

On market 5 years. Over 10,000,000 in use. Every set guaranteed. Popular thru service. Don't rebore cylinders. "NO-LEAK-O" makes good when others fail. Made different. Gives results no other ring can. Write for booklet. Order from nearest Jobber, or write direct.

Beware of infringements. All is not gold that glitters.

NO-LEAK-O PISTON RING CO., Baltimore, Md.

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Kleiber

MOTOR TRUCKS

Reliable—Powerful—Efficient

KLEIBER & CO., Inc.

MOTOR TRUCK MANUFACTURERS

11th and Folsom Streets,
San Francisco, Cal.

TOWER TRUCK
STRENGTH + SERVICE

A constantly increasing demand for all size Tower Trucks is evidence that the truck buying public is carefully comparing and analyzing motor truck values.

Direct Factory Branches.

Indianapolis • Chicago • Minneapolis

TOWER MOTOR TRUCK CO.
GREENVILLE :: MICHIGAN

"Better" Springs That Live Up to Their Reputation

Do Not Sag

Do Not Squeak

They Do Stop The Breakage

THESE popular priced springs for all makes of cars are guaranteed without restriction against sagging and breakage for one year. "Better" Springs are graphited between leaves, affording about two years' lubrication. They are also guaranteed to match the other springs on any car in load depression.

There is a toughness combined with a resiliency that means safety and comfort for the occupants of the car. Insist on NEW ERA. Every live dealer will eventually procure "Better" Springs, due to their unusual popularity.

Descriptive circular promptly mailed upon request.

Also write for detailed circulars on NEW ERA "Better" Spring Bumpers for all makes of cars, and "Better" Tire Carriers.

New Era Spring & Specialty Co.
1190 Hamilton Ave. Grand Rapids, Mich.

Lower Price?-No! Less Cost? Yes!

WISCONSIN Motors appeal to the man who can see beyond the price tag. The price is higher, on account of superior workmanship—adjustments, running-in, testing, inspections. But you save in the end because the motor is finished.

Your mechanics don't waste time adjusting

Wisconsin
CONSISTENT
Motors

CRANK SHAFT

Made of high chrome nickel steel, sand blasted and double heat treated. All bearings ground accurately to size. Flywheel flange forged integral with the crank shaft.

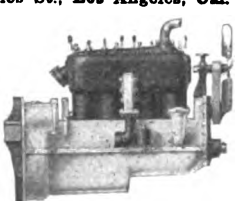
This motor was adopted as government standard for the Four Wheel Drive, Militor and 1½-ton Garford Trucks — fifteen thousand were used. Write for specifications.

Wisconsin Motor Mfg. Co.

Station A, Dept. 314, Milwaukee, Wis.

Pacific Coast Distributors: Earl P. Cooper Co., 1310 So. Los Angeles St., Los Angeles, Cal.

PACIFIC COAST DISTRIBUTORS:
W. F. McKenney, 68 First St., Portland, Oregon.
Chandler-Dunlap Co., Seattle, Washington.



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OF INTEREST TO THE OWNER

GASOLINE AND OIL STORAGE HAS MANIFOLD PERILS.

In considering the dangers attendant upon the storage and handling of oils, we are apt to think only of gasoline and naphtha. This is a great mistake, as every oil carries with it a menace to life and property and its handling should be safeguarded in every possible manner. But it is true that the danger of handling gasoline is greater than in handling other oils. Chas. E. Pask, advertising manager of the Wayne Oil Tank & Pump Co., Fort Wayne, Ind., discusses the question of gasoline and oil storage in an interesting way.

Gasoline, unlike the other heavier petroleum products, throws off an explosive vapor constantly, even at extremely low temperatures. Five gallons of gasoline will generate 8000 cubic feet of gas, which, when ignited, expands to 4000 times this space. The explosive force of one gallon of gasoline properly mixed with air and compressed is equal to 83 2/3 pounds of dynamite or fourteen times greater than dynamite.

This means that if you have 100 gallons of gasoline on hand, you are storing the equivalent in explosive force to 8366 pounds of dynamite. Gasoline is, in fact, more dangerous to handle than dynamite and there is more liability of an explosion. Dynamite will only explode from two or three causes, which may be easily guarded against and which must occur in its immediate vicinity.

The vapor from gasoline is heavier than air. It settles to the floor and runs along the floor much as a stream of water would, only it is an invisible stream. This vapor settles and remains in a depression in the floor or under the floor for days and even weeks, unless disturbed by a circulation of air, until a spark causes the accumulated vapor to explode. This spark does not necessarily have to come from a lighted fire, but may occur through a person striking a nail in their shoe on a nail in the floor or other similar unavoidable causes.

The records show that under certain atmospheric conditions, spontaneous combustion will occur in this accumulated vapor. A case is on record in which the gasoline fumes were carried outside of a building to a lighted lamp 30 feet away from the building, taking fire and flashing back to the building, which was entirely consumed. The car owner and garage man handling gasoline in any way but the right way are in just this position. They can never foresee when the blow will fall.

Kerosene is not as dangerous as gasoline, yet at a temperature of 70 degrees F. or over it throws off an explosive vapor. At a higher temperature, say 80 degrees F., in order to properly ventilate a room in which there is an open tank of kerosene, there should be kept up a circulation of air equal to 200 cubic feet per minute for each gallon of the exposed oil. These figures vary, of course, with the volatility of the oil and the temperature of the air and oil.

All petroleum products, including lubricating oils, produce this explosive vapor. The danger from lubricating oils, however, is chiefly from spontaneous combustion where waste, sawdust or shavings are used to absorb the oils spilled on the floors. Many fires in factories, oil rooms and garages have been traced directly to this cause, as it is a very common practice to neglect the accumulated refuse, which in time bursts into flames.

A FEW OFTEN REPEATED HINTS ON BATTERY CARE.

Never short-circut the battery terminals. To be certain that the battery terminals are substantial, turn clamping nuts up solid so that they will not work loose. Make certain that all batterv connections are absolutely clean and tight.

The battery should be inspected frequently to see that the electrolyte does not get too low; the electrolyte should be kept about ½ inch above the plates by the addition of chemically pure water only as the sulphuric acid does not evaporate. The specific gravity gives an indication of the charge and the battery should be tested about every two weeks with a hydrometer. A completely discharged battery containing the proper solution will indicate about 1.100 to 1.150 and a well charged battery will indicate about 1.275 to 1.300 specific gravity. Test each cell separately.

When the battery is fully charged and gassing freely, the specific gravity should be between 1.275 and 1.300.

If the voltage drops to 5 or 5½ volts with the head lights burning and the engine not running, it indicates that the battery is practically discharged. The actual voltage varies somewhat with the change of temperature.

LOCATING TROUBLE IN IGNITION SYSTEM.

If the engine fails to start—See that the ignition switch is "on." See that there is gasoline in the carburetor, take out one of the spark plugs and lay it on the engine with the sparking points in the air while the engine is turned over by hand or by the starting motor. If a spark passes, the trouble is not in the electric system.

If the engine starts but does not develop power, although firing regularly—this may be due to retarded spark or too rich a gas mixture.

If the engine misfires on certain cylinders at all speeds—examine the spark plugs of the cylinder that misses. See that the plugs are not fouled up, that the insulation is not cracked, that the electrodes are not short-circuited or spaced too far apart.

If the engines fires irregularly at low speeds—this is probably due to wrong adjustment of carburetor. The same adjustment is not always correct for winter or summer. The timer points may not be opening sufficiently to interrupt the primary circuit.

If engine misfires at high speed—this is probably due to wrong mixture in the carburetor, generally too rich. The timer points may open too far.

If engine backfires at starting—try retarding spark when cranking. Check up timing of interrupter or timer.

Backfiring while running—this is probably due to too weak a mixture in the carburetor. If it occurs at high speed it may be caused by a very heavy carbon deposit in the engine, or by overheating of the engine due to lack of water circulation. See that there is no dirt or water on the inside or outside of the distributor.

USING THE TIRE PUMP.

Long, deliberate up-and-down strokes in using a tire pump will fill a tire with air in about one half the time consumed in pumping with short snappy strokes. The pump plunger should go all the way to the top of the stroke, then all the way to the bottom, evenly and firmly, causing the operator much less fatigue of back and muscles.

REPAIR YOUR CAR WINDOWS.

Winter approaches. Now is the logical time to repair broken lights in the storm curtains of the car. It is astonishing how few cars one sees on the streets that has not at least one broken window light and it is equally astonishing what a lot of cold a single broken light will let loose upon the occupants of an open type car the cool winter days which we have even here on the Coast.

Repairing of broken window lights is a very simple operation. The work can be done by the car owner himself in an hour of his spare time and the necessary materials—transparent sheeting and a tube of pyroxylin cement—may be purchased at any auto supply store.

The windows are sewed in with a double row of stitches. First, cut the inside row of stitching. Leave the second row. Then cut out the broken light, leaving a strip of about one-half inch wide all around and held in place by the stitching left intact. Cut the new pane the right size and cement it to the edges left on the old pane. This method makes the cost of the replacement less than a dollar.

The success of the method depends on using the right kind of cement; in short, one made on a pyroxylin base. This is because the cement and the transparent sheeting are both made of the same ingredients. Cotton is the base. A pyroxylin cement combines with the sheeting in such a way that the two pieces of sheeting become a practically homogeneous unit.

Glues, cements and pastes made on other bases do not combine with the sheeting: hence the joint cannot be made as securely with them.

TURN OFF THE SWITCH BUTTON.

So simple a thing as forgetting to turn off the ignition switch when leaving the car is a very frequent occurrence among motorists. The driver may be in a hurry. The engine may have gone "dead" of itself. The choker may have been used to stop it running, especially in cold weather.

With the engine silent and the switch on, what happens? The great bulk of cars today are battery-ignited and of the closed circuit type. This means that the current is flowing to the breaker-distributor constantly while the switch is on, except during the infinitesimal moment when the breaker snaps open and shut again.

The breaker cannot interrupt the current permanently, so that there is a constant flow of current as long as the switch is on.

The result is generally a discharged or badly damaged battery and quite as often a burned-out resistance wire. The only cure is an infallible memory, or magneto ignition.—Splitdorf Electrical Co.

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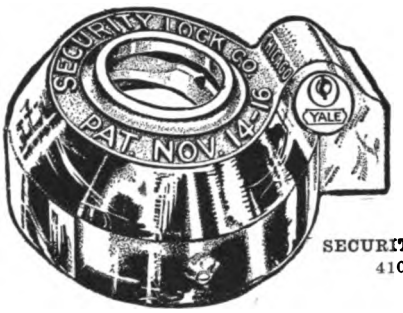

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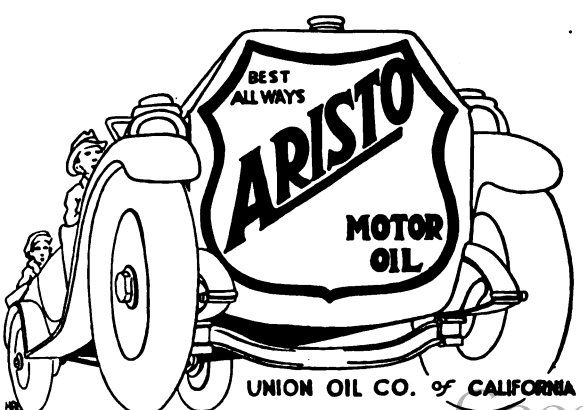

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34x3½	7.00	1.60	36x4½	9.75	1.85
31x4	7.25	1.65	37x4½	10.25	1.90
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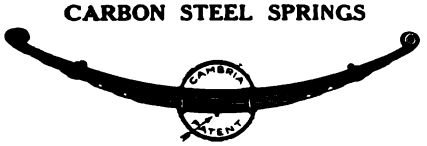

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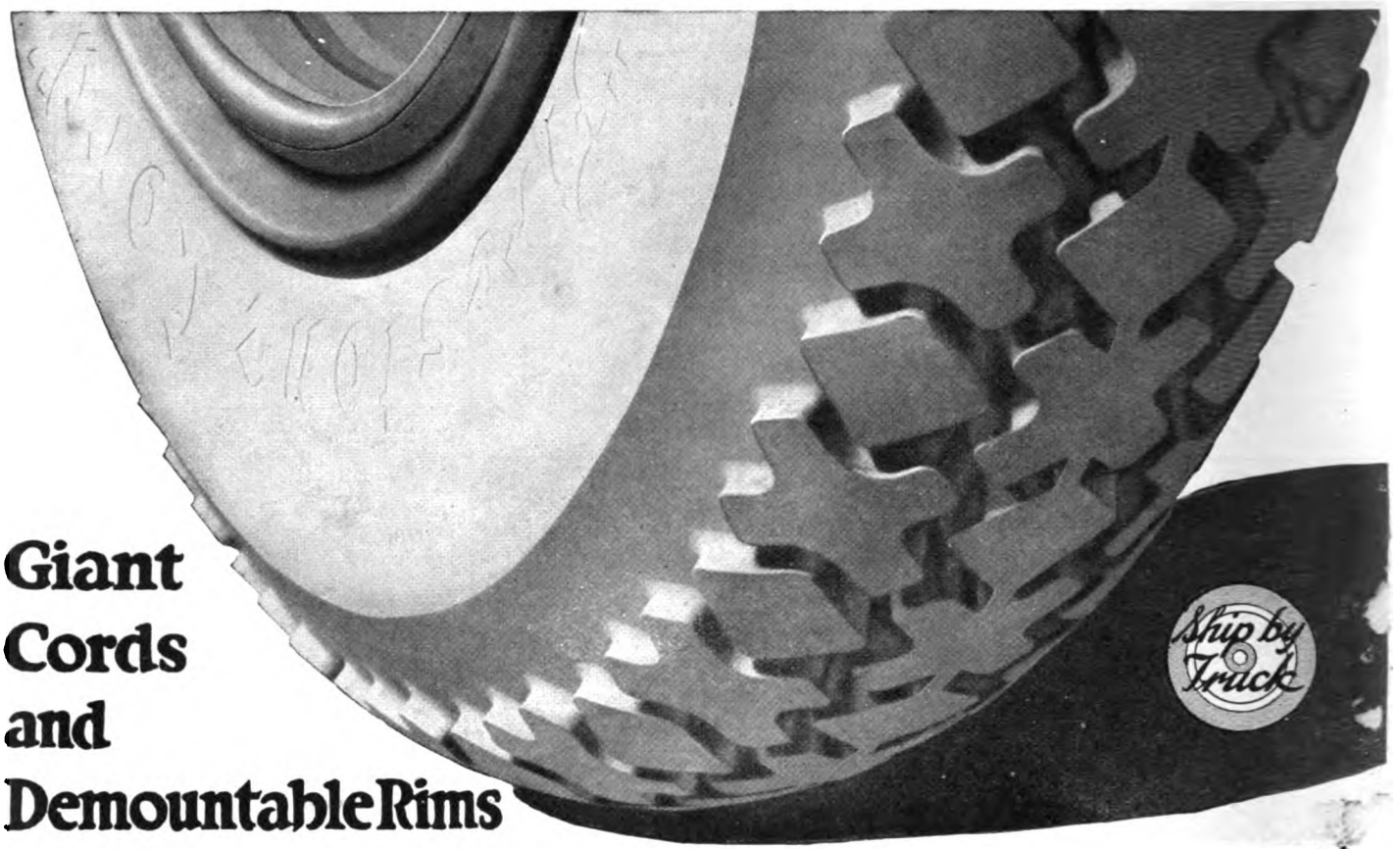

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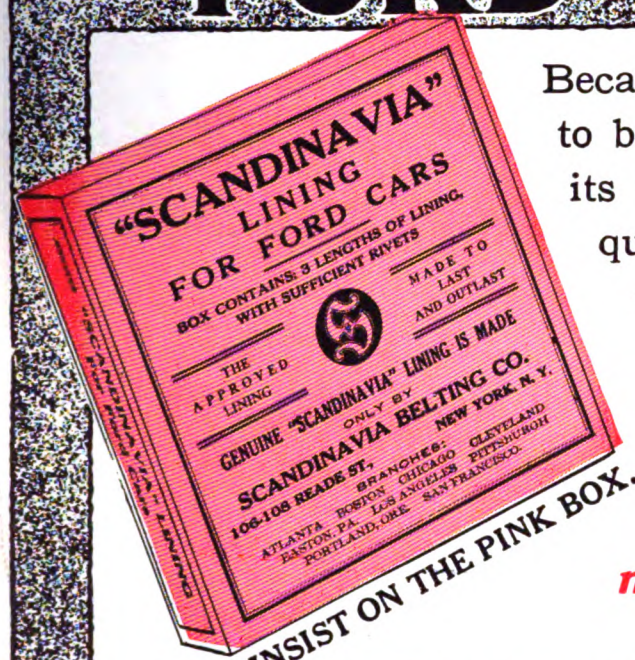

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Manufacturers of

Napoleon Trucks

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Yours very truly,

NAPOLEON MOTORS COMPANY

C. D. Peet

CDP:HMD

Sales Manager

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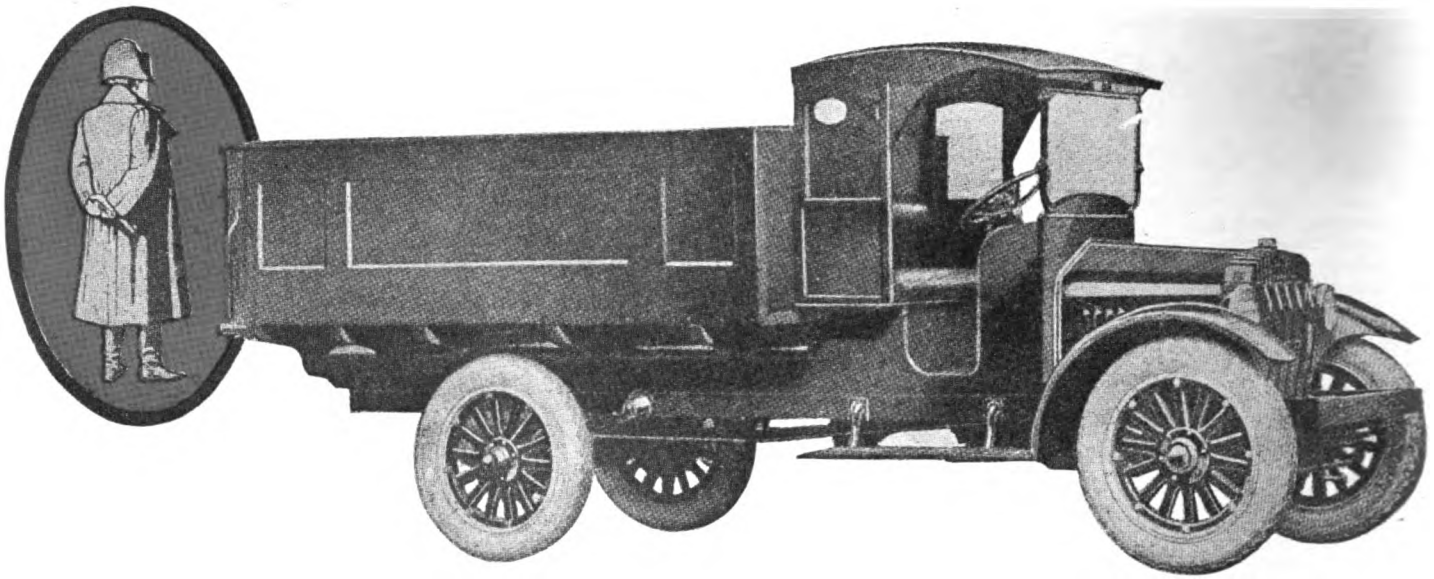

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A Napoleon Dealer *Always*

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Let's talk it over.

NAPOLEON MOTORS CO.
Traverse City **Michigan**

NAPOLEON TRUCKS

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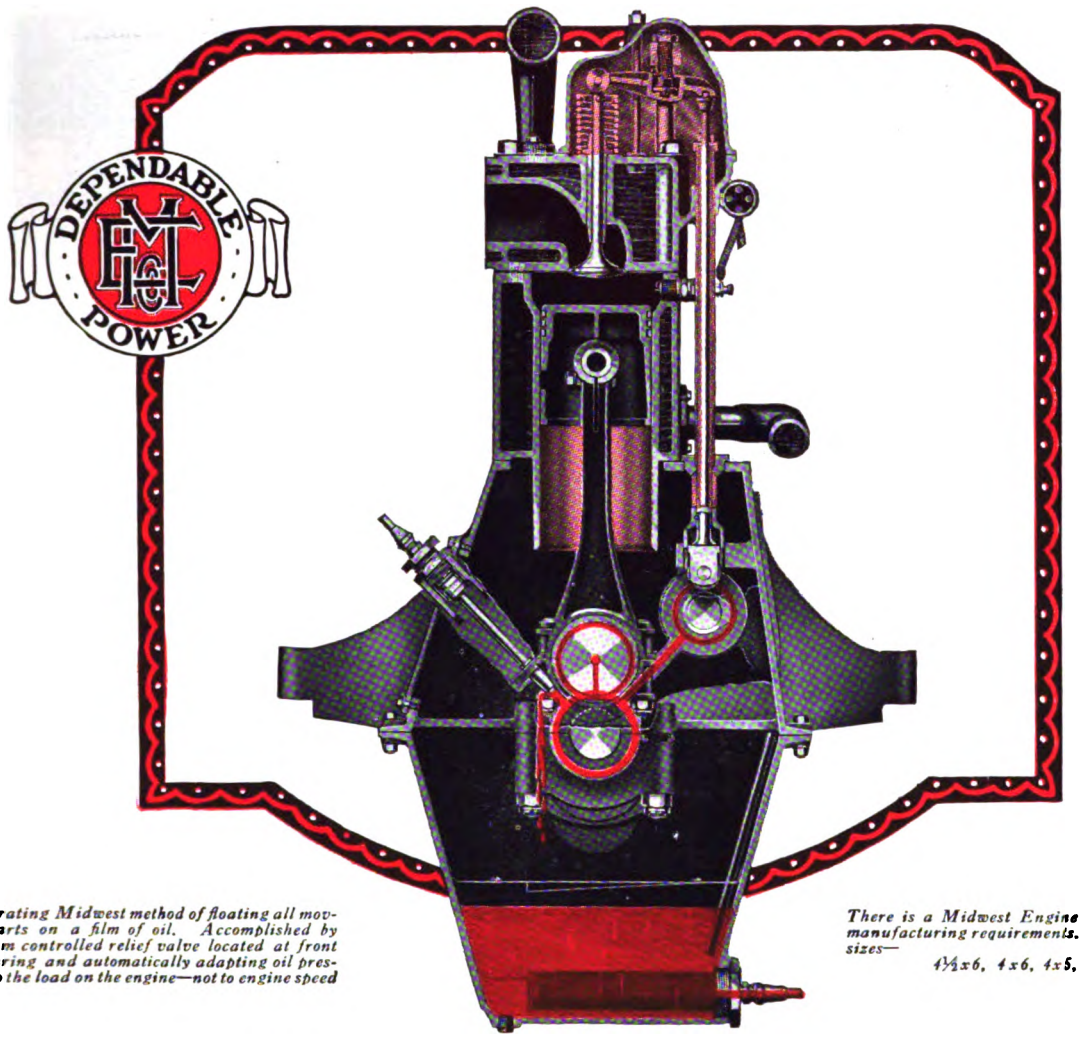
MIDWEST

TRUCK *and* TRACTOR ENGINE



Illustrating Midwest method of floating all moving parts on a film of oil. Accomplished by vacuum controlled relief valve located at front of bearing and automatically adapting oil pressure to the load on the engine—not to engine speed

There is a Midwest Engine size to meet your manufacturing requirements. Produced in four sizes—

4½x6, 4x6, 4x5, 3½x5

Truck and tractor engines, so far, have been built for heavy duty at slow speed. That was all right when trucks all wore solid tires and the speed of the engine was controlled by a "governor."

But, since pneumatic tires have been put on trucks, your truck engine must deliver both power and speed—average motor truck speed being the one big idea behind the adoption of pneumatic tires.

As a consequence, truck owners from coast to coast have ripped the governors off their truck engines; and you now behold a mechanical tragedy—slow speed truck engines forced to work at high speed.

The Midwest engineers have anticipated this emergency, with this new Midwest truck and tractor engine—the first heavy duty engine ever offered to truck builders where speeds up to 1500 r. p. m. (for 4½x6 engine) *under full load*, are possible and with engine performance guaranteed. That is the unanimous opinion of those engineers and manufacturers who have been given an opportunity to make a study of this latest of all Midwest products.

For full particulars address Sales Division 17.

MIDWEST ENGINE COMPANY - - - - Indianapolis, U. S. A.

Dependable Power

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To Strengthen Reputation as Well as Profits

MERCHANDISE should serve the merchant a double purpose; it should increase his prestige — build his business — as well as his profits. The far-sighted merchant makes this his standard—and selects high-class merchandise always.

To such a merchant, the Star Franchise is an invaluable asset. Star Dealers, everywhere, are building permanently, profitable tire departments. Both permanence and profiit are obtained in the sale of such tires as Stars.

Star Tires are hand-made. They have many features that make them the extra good tires they are. They give the tire buyer what he wants—uninterrupted, long-distance mileage at the lowest cost per mile.

The Star Franchise is *exclusive*. Write us for details. There is a well-stocked distributor near you.

THE STAR RUBBER COMPANY
AKRON'S MASTER TIRE BUILDERS
1074 CROZIER ST. :: AKRON, OHIO

California Distributors

Waterhouse & Lester Co.

Los Angeles
325-345 North Los Angeles St.

Portland, Oregon
Fifth Street at Davis

San Francisco, 540 Howard Street

SEATTLE

The Whiton Hardware Company

STAR CORD TIRES

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HAYNES CHARACTER CARS BUILD DEALER'S REPUTATION

THE pronounced success of the Haynes is more than popularity. It is acceptance by the car-user of the value of the four essential factors of character—beauty, strength, power and comfort—which are combined in the Haynes.

The good repute of the past twenty-six years has been crystallized into a solid foundation of good will. This is worth vastly more to us than any other testimonial to the excellence of the Haynes—the car of character.

This public good will and confidence naturally benefits every Haynes dealer. The record of the Haynes this year alone is a tangible asset to every dealer who has handled our cars.

We are now completing our alignment of dealers for the coming year's business. In some sections we will discuss establishing new dealer connections.

Should you feel that you are entitled to be among the Haynes dealers whose reputations are being so greatly strengthened by the public opinion of America's First Car, please write or wire us for an interview.

In writing or wiring, Address Dept. 1248

The Haynes Automobile Company, Kokomo, Ind., U.S.A.

The Haynes, AMERICA'S FIRST CAR, now exhibited by the government at the Smithsonian Institution, Washington, D. C., was invented, designed and built by Elwood Haynes, in 1893.

1893—THE HAYNES IS AMERICA'S FIRST CAR—1919

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The War's Best Lesson

During the war we made parts on which the chief demand was for Accuracy and Quality.

Our entire organization was saturated with these ideals—Accuracy and Quality.

Our performance on Government contracts was so efficient that we had no rejections.

The Benefits Remain

When we went back to our Truck production for peace purposes, we knew our lesson perfectly: —Accuracy and Quality.

We realized that business had been lacking in Accuracy and Quality, but that no permanently good or profitable product could come out of a shop that didn't work to these ideals—Accuracy and Quality. So we made Ace Trucks to the moral and ethical standard instead of to price.

We went beyond the habitual requirements in Truck manufacture and made a complete Truck, because the war taught the general public that it was foolish and wasteful to do things half-way.

Now the Public Demands the Real Thing

The Public demands genuine high quality today. The Public is the final judge, and the Public insists on absolute quality—real goods—better than ever production.

We will exhibit at
8th Coast Artillery Armory, NEW YORK
Section D, No. 3

Ace

We will exhibit at
International Ampitheatre, CHICAGO
Section G, No. 6

The AMERICAN MOTOR TRUCK COMPANY
NEWARK OHIO.

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That's Ace Trucks

The Public knows that quality pays. The Public is ready for prices that signify quality. The Public also has learned the war's best lesson, and insists on examination, inspection, tests, proof, and absolute conviction as to Accuracy and Quality.

On this basis Ace Trucks, completely equipped, are reasonably and attractively priced, and the volume of orders booked by deposits and covered by present contracts proves this.

2½ Ton $3500 - 1½ Ton $2800
¾ Ton and 3½ Ton
(ready soon) Prices Later

Ace

The AMERICAN MOTOR TRUCK COMPANY
NEWARK OHIO.

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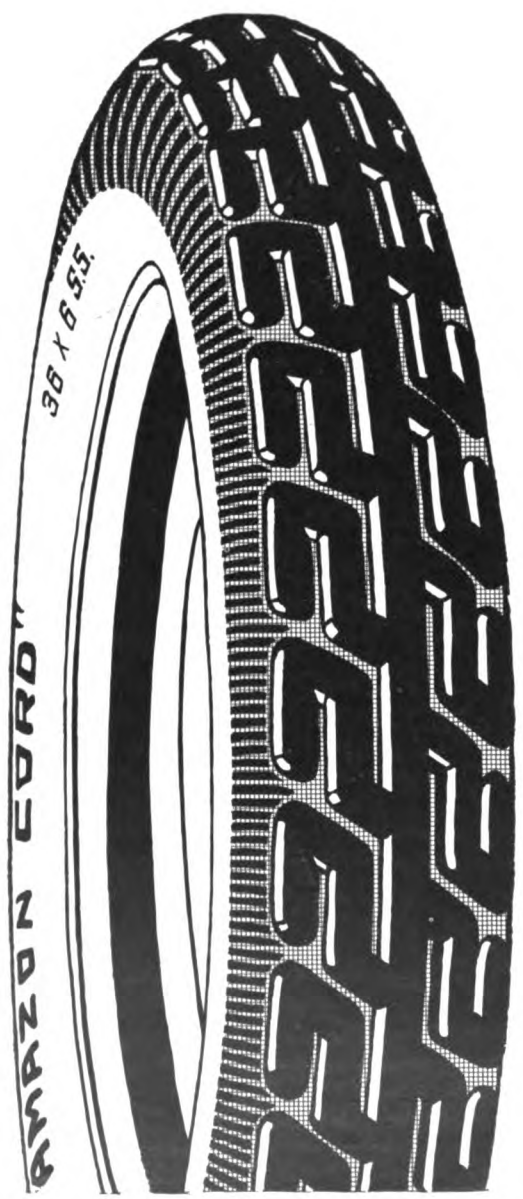
Better Than Best



The highest grade chemical ability gave Amazon tires the good name that they possess and careful training of skilled hands has improved their unusually fine quality. Amazon Tires are even better now than the best that Amazon has heretofore produced.

Amazon tires carry four profit advantages for the dealer in addition to the normal profits obtained from ordinary tires.

1. Better Mileage—More of it.
2. Wider margin of profit.
3. Repeat business, and
4. Actual Dealer Help.

Amazon Dealer Help enables the dealer to get out of the Amazon Agency the profit that is in it. Write for the story of this Help. It is contained in a book entitled "Amazon Helps."

Write for the Amazon Agency proposition.

The Amazon Rubber Company
1800 East Market Street
Akron, Ohio

AMAZON

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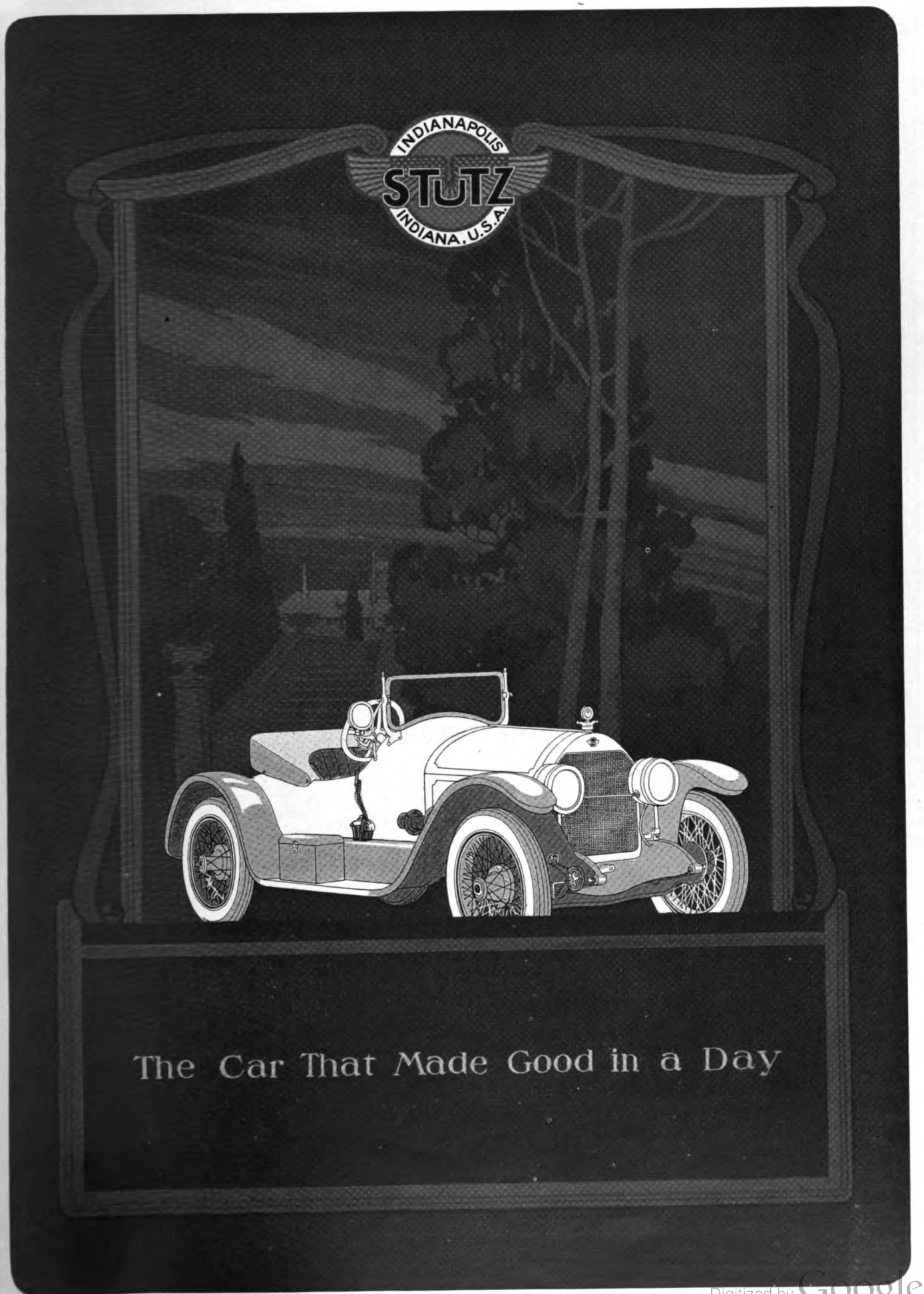

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THE Nash policy of furthering the Nash dealers' interests in every possible way is reflected in the desire of the Nash distributors to assist the dealer in building a profitable, permanent and constantly increasing business. That Nash dealers are successful in a financial way is evidenced by the heavy demand for Nash products received by us from all parts of the country.

Nash Passenger Cars

5-Passenger Car, $1490 2-Passenger Roadster, $1490 Sedan, $2575
4-Passenger Coupe, $2350 7-Passenger Car, $1640
4-Passenger Sport Model, $1595

Nash Trucks

One-Ton Chassis, $1650 Two-Ton Chassis, $2250
Nash Quad Chassis, $3250
Prices F. O. B. Kenosha

The Nash Motors Co., Kenosha, Wis.
Manufacturers of Passenger Cars and Trucks
Including the Famous Nash Quad

NASH MOTORS

VALUE CARS AT VOLUME PRICES

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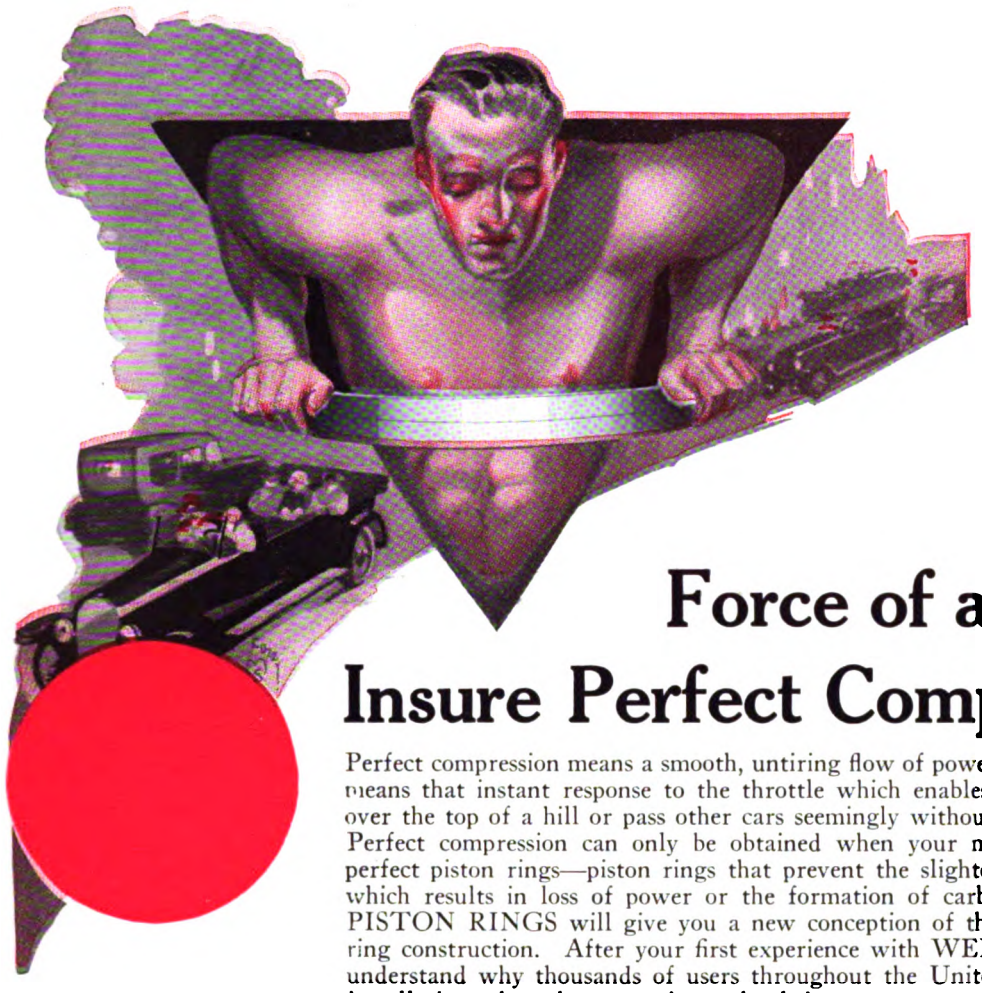

Let the Relentless Force of a Wedge Insure Perfect Compression

Perfect compression means a smooth, untiring flow of power from your motor. It means that instant response to the throttle which enables you to proudly shoot over the top of a hill or pass other cars seemingly without effort.

Perfect compression can only be obtained when your motor is equipped with perfect piston rings—piston rings that prevent the slightest escape of gas or oil which results in loss of power or the formation of carbon. WEDGE-RITE PISTON RINGS will give you a new conception of the importance of piston ring construction. After your first experience with WEDGE-RITES you will understand why thousands of users throughout the United States demand their installation when the motor is overhauled.

Ask Your Repairman

Ask your dealer to show you how the relentless force of a wedge insures a gas-tight fit forever. Ask him to show you how the wedge-shaped ring of untempered spring steel which exerts a constant outward pressure on the two outer or bearing rings, forcing them apart and pressing them firmly against the grooved walls. You will be surprised at the simplicity of WEDGE-RITE PISTON RINGS—their effectiveness is obvious after a minute's examination. Ask your repairman today about it. *In the meantime, send for our descriptive folder, which will explain more fully the advantages of WEDGE-RITES.*

Dealers and Garagemen

WEDGE-RITE PISTON RINGS give a complete and lasting satisfaction which invariably reacts to the benefit of the man who sold them. Hundreds of live dealers are stocking this ring exclusively.

Write for Further Information

Wedge Rite
PISTON RING
COMPANY
INC.

Plattsburg, New York Montreal, Can.

THE DEWITT G. SALTSMAN CO., New Haven, Conn.
BEST DIST. COMPANY, Kansas City, Mo.
NATIONAL AUTO SUPPLY CO., Chicago, Ill.
CRESSY BROS., 979 Woodward Ave., Detroit, Mich.
J. E. BENEDICT CO., 1212 Figueroa St. South, Los Angeles, Cal.

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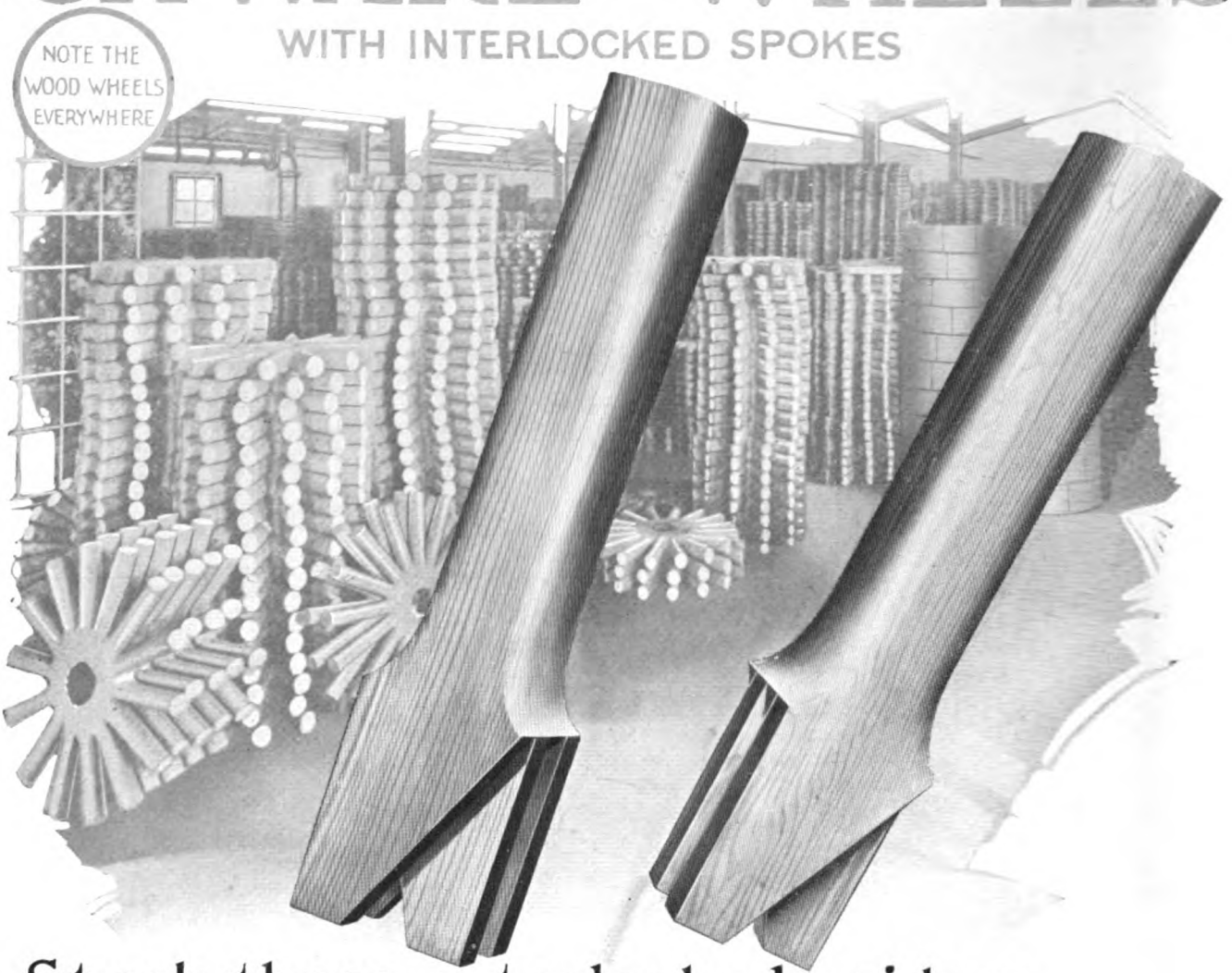
SCHWARZ WHEELS

WITH INTERLOCKED SPOKES



Stock these interlocked spiders— don't waste time turning spokes

That is the most costly part of repairing a broken wood wheel—turning spokes.

If it is a Schwarz wheel you are repairing, Schwarz spokes can be fitted right in and that's the end of it. If it is not a Schwarz wheel, then fit in a complete Schwarz spider. The whole repair will take much less time than turning the spokes, and you get full price for the job.

These spokes are interlocked. They make an absolutely rigid and permanent spider that is as safe to carry in stock as a complete wheel.

We are the exclusive distributors on the Pacific Coast for Schwarz Wheels and Spiders. Any size for passenger cars or trucks can be shipped immediately from our complete stocks at San Francisco and Los Angeles.

SCOVEL IRON STORE CO.

SAN FRANCISCO S I S Co LOS ANGELES

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STEPHENS Salient Six

Model 85 — Sedan
Five Passenger
122-inch Wheelbase, 57 H. P.
Fisk Cord Tires, 33x4½, Standard.
Showing the new Stephens Storm-Type Windshield and Sun Vizor.

THE surpassing excellence of so many of the more important features, qualities and acts of performance, distinguish the Stephens as a car apart from all others.

A careful scrutiny of these points will convince you that here is a car that brings to the height of motor car satisfaction to you in value and service — *The Stephens Salient Six.*

Moline Plow Company
Stephens Motor Works
Moline, Ill.

Factories, Freeport, Ill.

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LONGEST WEAR —SURE SMOOTH GRIP

WHITE STRIPE Transmission Lining is specially made for the hard service in Ford tranmisssions. It is a wonderful combination of weave and treatment.

THE high quality of cotton and the special White Stripe weave combine to make White Stripe the longest-wearing pure fabric lining on the market.

White Stripe treatment softens under heat. It will not melt nor wash out. It protects the fabric from hot oil—makes it lasts longer and work smoother.

THE finest quality, most expensive long fibre cotton yarn is woven by our own looms into a new and original weave, designed purposely for friction wear.

WHITE STRIPE weave is treated, down to the last strand, by a secret process that keeps the lining soft. And always with a smooth, sure grip, in spite of oil and friction.

WHITE STRIPE will stop a Ford car with twice the ease and smoothness of any other pure fabric lining.

WHITE STRIPE
Lining for FORDS

In sets of 3 complete with rivets, $2.00. Rockies West, $2.25. Canadian price $3.00. In rolls, 32c per foot. Rockies West 35c. Canadian, price 40c.

Dealers:

White Stripe is the fastest selling plain lining on the market. You should carry it in stock at all times. Advertising, trade-mark and known price—plus everlasting quality—make it a profitable, fast moving stock. Your jobber can supply you—or write direct for discounts.

Advance Automobile Accessories Corp.

56 East Randolph Street
Chicago

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Motor West

THE MOTORING AUTHORITY OF THE PACIFIC COAST

VOL. XXXII., No. 4 | DECEMBER 1, 1919 | $2.00 PER YEAR

PREPARING FOR PORTLAND'S SHOW

Annual Automobile Exhibition in Oregon Metropolis Will Be Held During Week of February 23-28, 1920.

Automobile and truck dealers in Portland, Oregon, have already begun preparations for this winter's show, to be held the week of February 23-28. Officers and committees to handle it have been selected and the main problem now before the dealers is to obtain a suitable location.

Past shows, especially last year and the year before, were greatly handicapped by being held in quarters too small. This year, with virtually 80 different makes of passenger cars represented in this territory, and 65 different lines of trucks, it is imperatively necessary to obtain a building large enough to house the show.

The show committee believes it can solve the problem ideally if it is able to lease the new pavilion of the Pacific International Livestock exposition in North Portland. Though quite a distance out of town, in every other respect this pavilion more than fills the bill.

It has two wings, 200x200 feet, in one of which passenger cars could be displayed while trucks are shown in the other. And there is an even larger center arena connecting the two that could be used for an automobile parade, demonstrations, or any desired special features. Negotiations are now under way for leasing the pavilion.

The show will be held under the auspices of the Portland Automobile Trade Association, a subsidiary of the Dealers' Motor Car Association of Oregon. Officers of the Portland Automobile Trade Association just elected are: H. H. Eling, Willys-Overland Pacific, Inc., president; A. S. Robinson, Robinson-Smith Company, secretary-treasurer; Howard M. Covey, Covey Motor Car Company, vice-president.

M. O. Wilkins, president of the Dealers' Motor Car Association of Oregon, will be manager of the show, as in the past two years.

Each Dealer Stages Own Show.

Under the guidance of new officers of the Spokane Automobile Chamber of Commerce plans for the second Progressive Automotive Show, Jan. 21-25, in Spokane, Wash., are taking form that promise unprecedented success. With the reorganization of the association and the election to the presidency of E. C. Finlay of the Eldridge-Buick Co., new life has been instilled and the scope of preparations is being enlarged.

Dealers are now conferring with factory managers to secure educational displays for the show. These displays, consisting of innovations in the automobile business, cut-out chassis, and plainly marked automobile parts, will be presented in the individual showrooms of dealers throughout the city. Decorators are being employed. Automobiles will be provided by dealers to transport the visitors from one display room to another.

California Has 453,765 Cars.

During the fourteen days' period making up the second and third week of November the total number of motor vehicles registered in California increased more than 8,000. Figures published by the state motor vehicle department show that on Nov. 22 registrations stood at 453,765, compared with 445,752 two weeks before.

The figures for Nov. 22 do not include substitute registrations, which amounted to 50,982. On the same date there were 2,917 licensed motor vehicle dealers in the state. Total fees collected by the motor vehicle department amounted to $4,357,548.

New Studebaker Service Station.

W. A. Swanson, of the Swanson Tire Co., of Los Angeles, is building a large garage and service station at Pico and Bond Sts. for Maxwell & Hoffman, Studebaker distributors. It will contain 14,000 square feet of floor space and modern in every respect.

LOS ANGELES SHOW MAY BE IN MARCH

Late Date Favored Due to Car Scarcity, and to Avoid Stimulating Demand that Cannot be Filled.

Los Angeles will hold its annual automobile show in March, 1920, if a tentative date suggested at a recent meeting of the Los Angeles Motor Car Dealers' Association is adhered to. In the case of the previous show the local dealers demonstrated their quick rebound from war-time stagnation by staging the first after-the-war show in the country just two months after the historic November 11th.

This year there is a shortage of cars to sell. Such was not the case during the last two peace-time months of 1918. In the opinion of some, March is too late, but it is generally realized that the holding of an automobile show at an earlier date would be but to stimulate a demand which even now is far from being filled.

Under the influence of approaching spring many new models will appear from the factories. Staging the Los Angeles show in March will allow dealers to benefit from the increased output of the factories and to introduce to Southern California the annual offerings of the automobile manufacturers.

Pelletier to Avoid Winter.

Another of Southern California's winter colonists will be E. LeRoy Pelletier, advertising counsel for the Reo Motor Car Co., of Detroit. He will make certain of visiting the national shows, leaving Chicago on show-closing night with Mrs. Pelletier to sojourn in Pasadena.

Massie Goes East for Oldfield.

Effective November 15, P. C. Massie assumed charge of the Chicago district for the Oldfield Tire Co., of Cleveland, O. He is succeeded on the Pacific Coast by R. R. Colby, formerly of Los Angeles, who will have offices in San Francisco.

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WILL BUILD TRUCK AXLES FOR COAST

S. C. Kyle Heads Corporation Which Will Erect Plant at San Jose for Building Worm-Drive Axles.

Manufacturers and users of motor trucks will be surprised to learn of the confidence which large manufacturers have in the future of the Pacific Coast.

Increased demands upon Eastern manufacturers have so far exceeded their ability to produce worm-drive motor truck axles that manufacturers of motor trucks have been seriously inconvenienced; in fact, in some instances have been compelled to discontinue manufacture due to their inability to secure a sufficient number of axles to take care of their production. This has been especially true with reference to manufacturers located on the Pacific Coast.

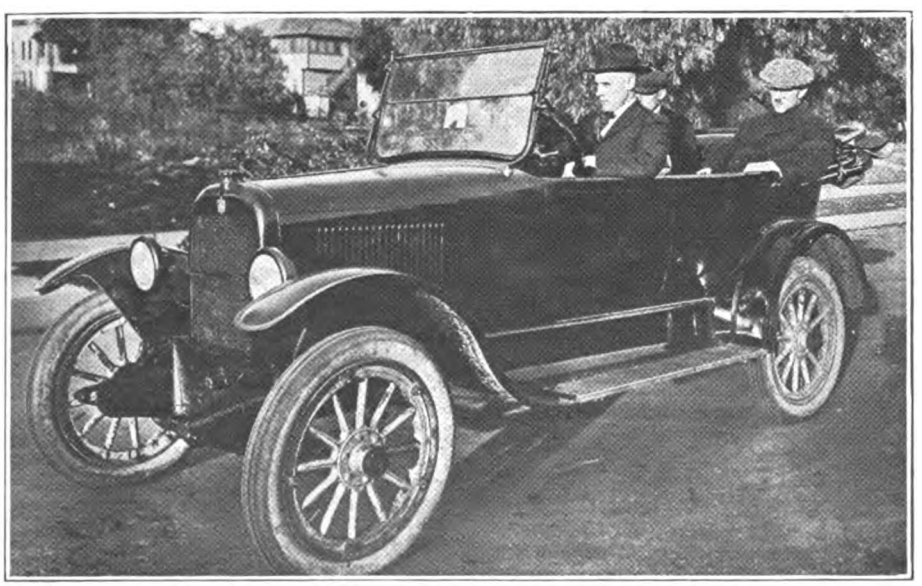
Attempts have been made at various times by local concerns to manufacture their own motor truck axles. While the product has been successful, the cost of producing these axles in a limited quantity has been such as to practically prohibit the continuance of their manufacture.

Understanding the need of supplying the Pacific Coast, and further recognizing the possibilities and the advantages that would accrue to the truck manufacturer in having a local source of supply of worm-drive truck axles, S. C. Kyle, the original designer of the well-known Wisconsin motor truck axle, has organized the National Axle Corporation, which will erect a thoroughly modern and up-to-date plant on the Coast for the purpose of producing high-grade and superior worm-drive truck axles in 1½ to 5-ton capacities. The company will be in production and deliveries made about May, 1920.

It will probably be remembered by those who know Mr. Kyle personally, that not only was he the designer of the Wisconsin axle, but also was instrumental in perfecting the organization of the Wisconsin Co. Mr. Kyle is to be complimented upon the foresight and judgment in creating such a manufacturing company on the Pacific Coast. This company will have on its engineering staff recognized leading engineering talent, as well as experienced production engineers.

Truck manufacturers will readily understand the great advantages to be derived from having a dependable source of supply located close to their plants. Arrangements are under way to locate the plant at San Jose.

J. G. Tavares, whose ability in connection with various enterprises has been recognized, is identified with this enterprise as president and general manager. The general offices of the National Axle Corp. will be located in the Rialto building, San Francisco, until the completion of the plant.



BRISCOE CAR WHICH RECENTLY ESTABLISHED ECONOMY RECORD OF 51.2 M.P.G.

Briscoe Does 51.2 on a Gallon.

A Briscoe car, driven by M. W. Zander, surpassed all its own previous records in a test run conducted in the vicinity of Pomona, Cal. The car traveled 51.2 miles on a gallon of gasoline, compared with its performance of 28.8 in the Yosemite economy run of several months ago.

With top lowered, but windshield in place and carrying a passenger load of 650 pounds, the car went over paved roads, two-thirds of the way up-grade, the remainder allowing of some coasting.

The car ran on over-size Miller cord tires, adding 3¼ per cent to each tire's circumference. This was carefully checked by chalking off on the floor the track made by the regular 30x3½ tire, Briscoe size, and alongside of it the track made by a 31x4, the dimensions of the over-size cord tire.

U. S. Truck in Central California.

The U. S. truck, manufactured by the United States Motor Truck Co., of Covington, Kentucky, will be handled throughout Central California by Robert M. Miller and Seyd Havens, forming the U. S. Motor Truck Co. of California. Their headquarters are in Oakland. Miller was formerly identified with the Locomobile in California since 1911.

Sturdiness and power in the U. S. truck is shown in its outward appearance. It is one of the five best built motor trucks made in the United States, regardless of price, according to opinion voiced at a recent meeting of automobile engineers in Detroit. The U. S. line includes 1½, 2½, 3½ and 5-ton models.

Comet Six in Northwest.

Comet Six cars and Comet trucks are to be supplied to the Washington field in large numbers, the Comet Motor Sales Co., of Seattle, Wash., has recently been definitely assured. The Seattle firm is the pioneer Comet agency on the Coast and is composed of William Erb and V. C. Stetson, both men well known in the local automobile field. New sales quarters have been opened at Third Ave. and Blanchard St. in the Washington city.

Adds Geronimo and Texan.

Returning from his travels through Texas and Oklahoma, C. J. Palmer, of Seattle, Wash., brings back with him the distributing rights in three states for the Geronimo Six car, built in Enid, Okla., and for the Texan four, built in Fort Worth, Tex. These he will add to his older lines, the McFarlan Ninety and Anderson Six.

A Man With a Marvelous Hook.

H. P. Haspel, past middle age, of Detroit, makes fountain pens. He can't write with his right hand because he hasn't got any; but in its place he has a D shaped iron hook with which he drove a Paige across lots to Seattle, where he astonished Con Foree, of the Great Western Motors, Inc., by traveling through traffic like a professional. The whole journey was so easy that he will drive home again, the southern route. Those who come across once, and declare "Never again," please note.

Willebrand Lives on Coast.

B. O. Willebrand, a former Detroiter, is now residing in Los Angeles. He was at one time Western sales manager for the Saxon and later connected with Studebaker and Grant.

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Remarks on Automobile Stealing.

A writer in the Los Angeles Times waxes warm on automobile thefts. His enthusiasm is partly explained by his final statement—that his own machine was stolen. Anyway, he speaks interestingly. His statement that most thefts are by youngsters, many with wealthy parents, and who are merely reprimanded even after a third offense, jibes with the fact that of 1463 machines reported stolen in Los Angeles in 1919 up to November 15, all but 276 were recovered. He hails the new Federal law, covering interstate traffic in stolen machines, with joy, but suggests that more local treatment—even such as a husky police officer could administer in a woodshed if the law would permit—would be very beneficial; and indicates the need of something being done, in view of increased insurance rates, particularly on machines valued up to $1800. On those valued at $3000 and $4000, rates have decreased 50 per cent.

Orange County is Busy Field.

The automobile, truck and tractor demand in Orange County is reported as in a very healthy condition. On all makes of cars dealers are behind on deliveries. They are preparing for a still greater volume of business, judging from the numerous new automobile sales and repair buildings being erected in Santa Ana, Fullerton and Anaheim, states Walter Biddick, secretary of the Orange County Automobile Trades Association.

Heavy Travel on Northern Highway.

Obeying, the majority of them, the lure of the northern Rockies and the Pacific Northwest, about 40,000 cars, carrying 120,000 tourists, used the National Parks Highway in 1919 for 1,000 miles or more. This was the estimate announced at the recent meeting in Spokane, Wash., of officers of the National Parks Highway Association. A budget of $20,000 was placed for 1920 to benefit the states traversed by the National Parks Highway.

Change in Dort in Inland Empire.

The agency for the Dort car in nine counties of eastern Washington has been taken over by the Inter-State Motor Co., of Spokane. The car was formerly handled by the F. & H. Motor Co.

Large Business on Air Springs.

Business in tremendous volume has made expansion necessary for the Gruss Air Spring Co., of San Francisco, states D. A. Pike, sales manager of the company. Not only in the Bay region, but also at their branches in Los Angeles, Fresno, Sacramento, Portland, Eureka and Seattle, is business showing a splendid increase. The San Francisco branch has been greatly enlarged by the leasing of an adjoining building running through from Van Ness Ave. The new building will make possible the handling of from 18 to 21 cars a week and will triple the previous capacity. A recent article in "Motor West" may have given the impression that the company was not still manufacturing the Gruss Spring, which was entirely without foundation, as the company's expansion indicates.

Tire Plant in Oakland.

A new tire factory for Oakland, California, is announced by the new industries committee of the Oakland Chamber of Commerce. About six acres of land at Fiftieth Ave. and Twelfth St. in that city have been bought for $35,000 by the new concern, the Coast Tire & Rubber Co., which is backed by Eastern and local capital. The building of the first unit is to start at once. Not including cost of the land, about $263,000 will be spent on the first building, the machinery and other equipment.

Take Over Garford in Oregon.

A new firm, made up of Portland business men, now handles the Garford throughout Oregon and three adjoining counties in Washington. William Cornfoot, T. M. Geoghegan, E. N. Wheeler and J. A. Haley compose the new company, which takes over Garford distribution from E. D. Van Dersal. Perfect service on Garford trucks will be assured by the carrying of a large stock of parts.

Dodge Dealers Build.

Riegel Brothers, who handle the Dodge in Spokane, Wash., and for eastern Washington, will have a two-story brick building erected for them. Their new home will be at First and Adams Sts., and will represent the addition of a second story to a one-story building already on the site, for which the Riegels paid $65,000.

Good Business Man and Author.

Charles H. Shields, of the Shields-Livengood Motor Co., which has houses in Seattle, Spokane and Yakima, has been a business man many years but is a deep reader and author of books on psychology, economics and political science. One of his works, on economics and taxation, is in its seventh edition and bids fair to become a standard for professional use throughout the country.

New Miller Carburetor.

The Harry A. Miller Mfg. Co., of Los Angeles, Cal., is now placing on the market the new 1920 Miller carburetor. An excellent detail of this is the special air intake for Continental engines.

CALIFORNIA NOW FAVORS HYPHEN

Not in Its Citizens, But on Registration Plates of Its Automobiles—1920 Tags to Be Different.

The license tags that will grace motor vehicles operated in California during the year 1920 will be of decidedly different appearance than those used during the past four or five years. The new number plates are of 26-gauge sheet steel. The numbers are heavy embossed on the metal painted white with a black background.

The combination of the white and black make the figures extremely easy to read. As a further aid they are spaced with a hyphen. This system has been very successful in New York and other Eastern states.

The new yearly license plate plan adopted by the California motor vehicle department will save the state not less than $150,000 a year in clerical help and postage. The new plates are light and two of them packed ready for mailing weigh less than a pound. To issue new plates each year is much simpler than the previous method of furnishing a yearly-changed seal to be affixed to a permanent number plate.

From the four main branches of the state motor vehicle department license plates will be issued as follows: Sacramento, 1 to 200,000; Los Angeles, 200,000 to 300,000; San Francisco, 300,000 to 350,000; and Fresno, 350,000 to 375,000.

State motor vehicle officials expect the issuance of new plates to reveal some interesting figures by March or April, 1920, regarding the actual number of motor vehicles in actual operation. Number plates are now running around 575,000, but without doubt doubt thousands of plates represent cars "junked" and out of the running. These "dead" numbers may be found to total close to 150,000.

Takes Agency for Diamond Grid.

D. B. Rose, president of the Los Robles Electric Garage Co., announces that his firm has taken over the distribution of the Philadelphia Diamond Grid starting and lighting battery. They will control the territory as far east as Azusa, west to Glendale and south to Alhambra and El Monte.

The firm has always sold a few Philadelphia batteries, according to Rose, and their success with them determined them to go into the starting and lighting business. The battery department will be in charge of Charles J. Carlson, who has years of experience with Philadelphia batteries in Los Angeles and San Francisco.

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S. F. DEALERS LOOK FOR PROSPERITY

New Buildings and Additions Going Up in Preparation for Big Trade Now in Sight—New Cars on Row.

Automobile dealers and factory representatives in the San Francisco field are preparing for the greatest period of prosperity in the history of the Pacific Coast automobile trade. Many prominent factory figures have been seen on the Coast within the past two months. All of them displayed their recognition of this region's unlimited possibilities as an automobile-buying field. Their recommendations on returning will be that steps at once be taken to share in the assured prosperity beyond the Rockies.

The skyline of Van Ness Ave. is constantly changing with the upgoing of new structures devoted to automobile and truck merchandising, accessories, service, all branches of the great automotive trade. Despite this expansion overcrowded dealers and new agencies are finding it difficult, almost impossible, to secure quarters. Many firms have taken entirely new agencies, of which neither they nor the public has yet seen the cars and will not see them until the new factories begin nation-wide distribution after the New York and Chicago national shows.

The Sandow truck and the United States truck are two new arrivals in the Northern California territory. L. D. Allen, head of the California Motor Sales Co., and well known through his success as Cole Aero Eight agent, has taken the Sandow for California, Arizona and Nevada; he has contracted to handle 300 trucks in his territory.

The United States truck, built in Covington, Ky., is re-entering the Central California territory with the taking of the agency by the U. S. Truck Co., of Oakland.

The proportion of automobile dealers able to fill orders immediately or promise filling them at an early date shows a large increase. Immediate deliveries are possible on Briscoe, Maxwell, Mercer and Allen cars. Brightening hopefulness is shown by the dealers handling Chalmers, Chandler, Oldsmobile, Hupmobile, Grant, Mitchell, Haynes, Overland, Jordan, Essex and Columbia. Buick and Hupmobile promise order filling in rotation.

New Biddle cars are appearing, the agency having been taken by Martin M. Hartmann. Thirty-five Anderson Sixes will be allotted San Francisco a month, states A. V. Seymour, recently appointed dealer for the car. The Allen car is another comparatively new arrival; it will be pushed vigorously by the Miller-Rector Co., which expects to occupy its new Van Ness Ave. home by Christmas.

The Lexington factory realizes the great demand for automobiles on the Coast and the handicaps under which Coast distributors labor and is therefore doing everything in its power to keep cars moving Westward, according to C. P. Henderson, Western representative back from Connersville, Indiana.

George Campe, handling the Chevrolet, states briefly that there are not enough cars to go around; the Chevrolet assembling plant in Oakland was recently reported as being 3,700 cars behind orders.

Northern California has already taken 700 Essex cars, since the factory

L. G. LEHOUSSE,
Who Will Have Direct Supervision Over All Branches of the Portage Rubber Co. on the Pacific Coast.

launched into production last winter, states H. O. Harrison. Shipments, he reports, cannot keep up with the demand, although production will soon be 40,000 cars a year.

Among truck dealers Wilbur F. Knapp reports his concern as being in an enviable position to make early deliveries on F-W-D trucks. Garford, Kissel, Diamond T and United States 1½-ton trucks are also sufficiently numerous to make prompt filling of orders possible.

The Italia truck, of high-grade design, will be built by a new truck making firm here, the Italia Truck Co., headed by F. J. DeMartini, whose name became prominent in connection with the DeMartini Motor Truck Co., another local firm.

Allen Takes Sandow Truck.

The Sandow truck, manufactured in six sizes ranging from one to five tons, has been taken for California, Arizona and Nevada by L. D. Allen, head of the California Motor Sales Co., of San Francisco. His company has become well known through its success as Cole Aero Eight distributor, with branches in Oakland and Fresno. The Sandow truck will be handled in California through a state-wide truck dealer organization.

Six models make up the Sandow line—one-ton, one and a quarter ton, one and a half ton, two-ton, three and one half ton and five-ton capacities. Among the prominent features of the truck are the Sandow motor rocker block, which saves hundreds of dollars to truck owners. Another is the quick demount ability of the engine, taking 45 minutes compared with 12 or 24 hours' labor necessary on many other trucks. In taking the agency, L. D. Allen contracted with the Sandow Motor Truck Co., of Chicago, to handle 300 trucks.

Lehousse Coast Manager for Portage.

The recent change of administration at the Portage Rubber Co.'s factory at Akron, Ohio, has extended over the entire United States, and now, due to the efforts of J. D. Pasho, general sales manager, the Pacific Coast branches of this company are under the direct supervision of L. G. Lehousse, who is one of the originals of the industry in the West.

"Lee," as he is best known to the trade, assumes the title of Pacific Coast manager with headquarters at the San Francisco branch, 745 Mission Street, and will, from records of past experience, with the co-operation of his branch forces and sales organization, put Portage on the map stronger than ever.

The company will open direct factory branches in others of the larger cities on the Coast in the early future.

Chevrolet Dealer is Host.

The Chevrolet Motor Co. of California, with an assembling plant at Oakland, Cal., is 3,700 cars behind orders, according to a recent report. This was a fact brought out at a recent meeting of the sales organization of the George Campe Motor Co., Chevrolet dealer in San Francisco. George Campe head of the firm, played host at his Burlingame home.

Spokane Company Re-organizes.

The sales department of the Sunset Motor Co., of Spokane, handling Cadillac, Hupmobile and Maxwell cars, has been re-organized. E. D. Suitor comes from Portland to become sales manager. He succeeds Ben E. Kritzer, who takes charge of Cadillac sales.

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Fine Quarters for Cole Dealer.

The California Motor Sales Co., of San Francisco, Cal., dealer for the Cole Aero Eight car, will occupy its new building on Van Ness Ave., near California St., some time about the middle of January. The new structure will be one of the leading dealer establishments along San Francisco's automobile row, where the progress of the local automobile industry is strikingly indicated in the razing and disappearance of ancient buildings and the rapid erection of handsome new structures devoted to the automobile trade. According to L. D. Allen, president of the California Motor Sales Co., his new home will front 93 feet on Van Ness Ave. and extend 159 feet west, with a wing or L reaching to Sacramento St., giving another frontage of 77 feet.

Stage Line Applications Increase.

The California Railroad Commission continues to receive numerous applications for permits to operate automobile stage lines, to carry passengers, express matter and freight. In nearly every application the fact of present deficiency of transportation means between the points named, is stated. Recent applications include those for lines between San Francisco and Carmel; between Oakland and Los Banos, via Tracy; and between Los Banos and Dos Palos in Merced County.

Hawley-King Now Retails.

The Hawley-King Co., of San Francisco, formerly acting exclusively as wholesale dealer for the Oakland car, has opened a retail sales branch, now temporarily located at its wholesale quarters on Polk street. At the same time announcement has been made that Oakland cars will soon be reaching the Coast in numbers that permit deliveries to overtake orders.

Builds Popularity on Short Notice.

Seven months' time for securing and increasing its position in popular favor is a short time, no matter how excellent the product. This seems, however, to have been achieved by the Essex car. San Francisco is an example, where H. O. Harrison, the local dealer, has sold 500 Essex cars since he received the first carload in February.

Elgin Re-Appears in Southland.

The Elgin Six car has resumed active distributing connections in the Southern California territory after having been unrepresented for about a year. J. A. Anderson, H. M. Logan and J. A. Wright, forming the Occidental Motor Co., came from San Francisco to take the agency for Los Angeles county. The appointment was made by the Pacific Motor Companies, of San Francisco.

The Elgin Six line includes three models—five-passenger touring, Victory Scout and sedan. They have the Falls engine, producing 23.4 horsepower, and a wheelbase of 118 inches.

Spokane to Improve Traffic.

Radical remedial changes in traffic regulations in Spokane, Wash., following out the nation-wide improvement in traffic conditions, which include the demand that every automobile operating on Spokane streets be equipped with a speedometer, elimination of the abused privilege of parking automobiles in the congested downtown business district and the clearing of cars from certain busy thoroughfares, have been proposed to the city council by heads of the Spokane Automobile Chamber of Commerce.

Conditions have reached such a stage because of the increasing number of automobiles that the congestion on downtown streets is alarming, according to automobile dealers. The Seattle ordinance has been submitted as a model for adoption.

Towns Agree on Rival Road Signs.

The rival towns of Yakima and Wenatchee, Wash., both important fruit growing centers, have settled in unique manner a controversy of years standing over erection of a signboard at the junction of the Sunset and Inland Empire highways.

At a conference presided over by J. C. Hubbell, chairman of the legislative committee on roads and bridges, representatives of the two towns formally agreed on erection of a large signboard at this important junction, having on it a map of central Washington, and showing all important towns and distances between them. The map is to be sketched and submitted to the two communities before the sign is made. In addition to the map, there will be two 16-foot arrows pointing respectively to Yakima and Wenatchee. Due care will be observed that neither the Yakima or Wenatchee arrow is longer than the other.

Too Much Glass on Streets.

There is an epidemic of broken glass throwing in Pacific Coast cities and it is traced, not to wind-up celebrations but to more-than-careless milkmen and garbage collectors. The prevalence of glass is noticeable to anybody. In Los Angeles, especially, complaints are so numerous that the Automobile Club of Southern California recently sent out a sweeping crew which found that the nuisance was greatest along certain routes and traced it to purveyors of lacteal fluid and collectors of antique rubbish.

GOODYEAR MEN ON COAST PROMOTED

J. E. Argus and Frank Carroll Advanced to Higher Positions as Reward for Faithful Service.

Through faithful services and the expansion of the Goodyear Tire & Rubber Co. on the Pacific Coast, J. E. Argus and Frank Carroll, both well known in Coast tire-distributing circles, have advanced to higher positions.

For four years Argus has headed the Goodyear forces in San Francisco as district manager. He now goes to take a position in the new factory at Los Angeles as manager of the mechanical goods department. Argus's connection with Goodyear in San Francisco dates from July, 1913, when he became mechanical goods department manager.

Frank E. Carroll, who has proven his ability as an executive in the capacity of San Francisco branch manager, succeeds Argus as district manager. He has been with the Goodyear longer than any other member of the company on the Coast. More than twelve years ago, in April, 1907, became the first salesman for Goodyear in San Francisco. The competition he met was very strong and his prices were considerably above those of his rivals. Goodyear officials were keenly mindful of his work and in 1913 Carroll became San Francisco branch manager.

Automobile Should Have Its Say.

There should be automobile men in the state legislature of every Western state. Only the man familiar with the problems which the automotive industries have to overcome will show any sympathy for its welfare. In the last California state assembly there were 80 members. Listed, their occupations varied all the way from investor and clergyman down to housewife and hop buyer, but machinist is the nearest thing to automotive business man.

Some decidedly discriminatory legislation was discussed at the last legislature, in fact, at almost all of them during recent years. Exclusive of county taxes the whole automotive industry in California has paid the state more than four and a quarter million dollars this year, and when laws affecting it are being considered it should be represented.

Fuller Returns to Coast.

Tom Fuller, well known on the Coast, has returned from a sojourn in New York and Detroit. He holds an option on the new Argonne car, a high-quality car built by the former manufacturers of the Palmer-Singer line.

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LATE TRADE NEWS FROM LOS ANGELES

Another Coast-Built Car Makes Its Appearance—Much Building in Progress—Car Shipments More Plentiful.

Another Coast-built car is to be manufactured in Los Angeles, this being styled the Californian. O. L. Tull, formerly connected with the distribution of Kelly-Springfield trucks in Southern California, is the moving spirit back of the California Motor Car Corp., which recently has leased factory quarters on North Alameda St., Los Angeles.

Buildings intended for automotive business are now being erected to an extent surpassing all previous periods of prosperity among dealers. Among the principle structures not yet completed are those for Maxwell & Hoffman, Studebaker dealers; Harris M. Hanshue, Apperson; W. P. Herbert, Cleveland car; Hilliard-Lewis, McFarlan car and Indiana truck; Albertson, Dodge car; and the Southern California branch of the Chevrolet Motor Co. of California.

All of which betokens the optimism felt by the Los Angeles trade. But Coast dealers visiting the East have returned astonished at the tremendous expansion going on at the factories; their own plans which seemed enterprising appear conservative now in comparison.

Such a visit eastward convinced W. P. Herbert that in planning a three-story building he was too conservative: to fall in line a five-story structure has been planned, with 40 per cent increase in floor space.

New agencies taken are for the National, Elgin, Allen, Crow-Elkhart, Holmes and Bell cars. New models on display are the Stutz, Winton Six, Stephens, Elgin, Allen, Case and Velie. Soon to arrive are the Standard Eight, Peerless, Holmes air-cooled and National Sextet cars.

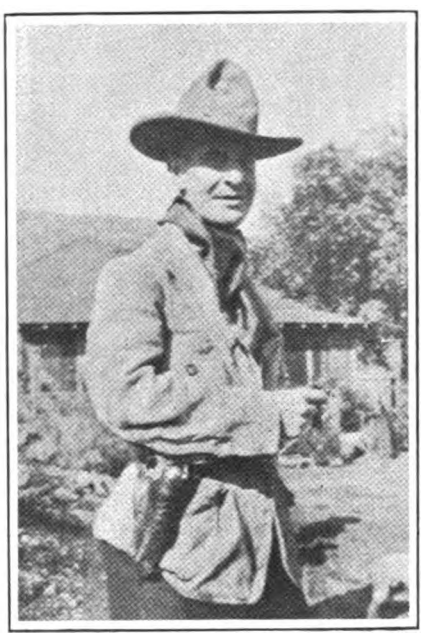
An increasing proportion of the local dealers promise immediate delivery, especially on Moon, Columbia, Briscoe, Franklin, Series 9B, Mitchell, Nelson, Pilot, Metz, Allen, Haynes open model, Kissel and Saxon cars.

A number of others, due to expansion at the factories, are predicting the filling of orders in the near future, notably on Cleveland, Cole, Studebaker, Stutz, Cadillac, Chalmers, Apperson and National Sextet.

Chalmers shipments to the Coast are greater than in many months, states the Greer-Robbins Co., and deliveries have consequently speeded up. Much building at South Bend, Indiana, induces Maxwell & Hoffman, to promise early deliveries. Appersons of the 1920 series will be on the oast within a few weeks, according to Harris M. Hanshue. Early-placed orders mean early deliveries, warns the Walter M. Brown Co. According to W. P. Herbert, the Cleveland factory will soon be on a 150 car a day basis; then they can expect to begin filling the Southern California demand.

Smith Brothers hear of more Peerless cars for Southern California; deliveries can be made more promptly than in a long time, more quickly o open than on closed cars. Several months' waiting for Standard Eight models will be rewarded by a shipment expected any day, says C. P. Vauclain. The Eastern pressure has relaxed somewhat, states O.. R. Fuller, and Southern California will receive a larger share of Stephens Salient Sixes.

Among new agencies is that for the



MARC ALLEN.

Newly-Appointed Coast Factory Representative of the Double Fabric Tire Co., of Auburn, Ind. This isn't Marc's everyday rig, but when he stopped off at Charlie Warner's big copper mine at Lordsburg, N. M., they created him a deputy sheriff, hung a gun on him and set him at work guarding the property. Marc is now a full-fledged resident of Los Angeles.

Elgin Six, taken by the Occidental Motor Car Co., who have cars already on display. Among new models a great many orders are reported as booked on the Winton 25 for 1920. On another newly arrived car, the Allen, the Warmington-Harris Co. reports immediate deliveries possible.

Motor truck dealers have been caught in the wave of prosperity. Within a three months' period, ending Nov. 15, O. R. Fuller, White truck dealer, handled $551,866 worth of business. Harold L. Arnold sold 332 Republic trucks in an eight and a half months' period ending Nov. 15. The demand for trucks is unusually good, especially in Arizona, reports D. F. Poyer, handling the Transport, a comparatively new truck line on the Coast. The Western Motors Co. sold one truck a day during the last week of October. Another newly arrived truck model is the Garford 1¼-ton. Numerous truck dealers are able to promptly fill demand, notably those handling Selden, Moreland, Velie, Transport and Kissel trucks.

The West Coast is more than ever holding the eye of men prominent in the Eastern factories. Climate, the two large automobile shows scheduled for San Francisco and Los Angeles and winter-season racing make an irresistible combination to draw them hither. Among recent visitors are R. C. Rueschaw, vice-president and general manager of the Mitchell Motors Co.; Elmer S. Apperson, senior member of Apperson Brothers Automobile Co.; James N. Dunlap, sales manager; F. H. Akers, general sales manager of the Reo Motor Car Co.; and E. LeRoy Pelletier, advertising counsel for the same company.

Los Angeles will have a late show this year, according to present indications. Some time in March is the tentative date considered by the dealers. This would allow new models to be exhibited and at the same time leave dealers in the position to fill orders, instead of stimulating a demand they cannot meet, such as now still generally remains the case.

Alexander Returns to Coast.

Called Akron-ward a little more than a year ago to fill an important factory position for Goodrich, H. O. ("Burt") Alexander is back again on the Coast, now special Western representative for the Miller Rubber Co., of Akron, O. Since he reached the Coast eight years ago Alexander has become one of the best-known tire men from Seattle to San Diego. Miller geared-to-the-road tire sales have tripled during a comparatively recent period.

Philippines Have 4,326 Cars.

Last year in the Philippine Islands 4,326 automobiles were registered. Classifying these as to body types they stood as follows: five-passenger, 2,153; seven-passenger, 1,171; two-passenger, 459; four-passenger, 181; eight-passenger, 108; three-passenger, 107; six-passenger, 94; ten-passenger, 37; and nine-passenger, 16. Practically half of the entire number were five-passenger cars. One hundred and fourteen different makes of cars were registered.

Sutherland Heads Splitdorf.

R. W. Sutherland has been elected general manager of the Splitdorf Electrical Co., of Newark, N. J. He was identified with the company on the Pacific Coast as branch manager for several years.

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PUBLICITY PAYS IN PACIFIC N. W.

Tourist Association Secretary's Report Shows Vastly Increased Travel to Section Following Advertising.

The third annual report of Secretary Herbert Cuthbert, of the Pacific Northwest Tourist Association, is given prominence in the Capitol Bulletin, published at Olympia, capital of Washington. This four-page bulletin, issued monthly, reports state development and departmental activity.

Secretary Cuthbert points with pride, and with reason, to the effect of his association's publicity as shown in volume of tourist use of hotels, camping grounds, ferries, etc., and by registrations at headquarters of automobile associations. The national parks drew many more visitors—300 per cent more went to Rainier. In Walla Walla alone, it being in the southern part, hence much passed through by tourists from the East, it is estimated that the travelers spent $50,000 a month during the summer.

A large percentage of automobile tourists were from the East—people of observation and wealth. This fact is reflected in the outlook for many more high class hotels, some now in construction. Some of these large hotels buy $85,000 worth of food and other things per month—twelve times as much as it has cost the Tourist Association to advertise the whole state for a year.

The report urges the early completion of hard surface highways under way or projected, particularly the Pacific Highway.

Army Cars Need Not Show Tags.

Army automobiles in California need not display state license plates, Attorney-General U. S. Webb of California has ruled. Superintendent P. J. Tehaney of the California Motor Vehicle Department wrote to the chief of the Motor Transport Corps of the United States Army asking that orders be issued requiring army automobiles to display state license tags.

The Motor Transport chief replied that the Government takes the stand that no state has authority to prescribe Army regulations. This contention was upheld by the California attorney-general.

Two Per Cent of Mexicans are Buyers.

Throughout all Mexico there are not more than 18,000 motor vehicles, according to a recent estimate. Of these about 30 per cent, 5,493, more exactly, are found in Mexico City and its suburbs, making up the Federal District. In Mexico City there were 2,337 private cars; 1,916 cars for public use; 1,104 "jitneys"; and 136 motor trucks.

Automobile dealers in the Mexican capital estimate that not more than 2 per cent of the population is now in a position to buy automobiles. Roads are in bad condition and little is being done to improve them.

From Seattle to Tia Juana and Back.

C. K. Kinsey, of Seattle, paid 10 cents for a tail light fuse; and that's all he did pay, for repairs or replacements, during a trip with his family in a Lexington Minute Man Six, to Tia Juana, at the Mexican border, and return. In the California mountains, he said, the average travel per gallon was 17.2 miles, and on the paved roads 33. Only five gallons of water were used on the 1500-mile journey. The gasoline-saving suggested the economy of better roads, paved ones, in Washington. Mr. Kinsey's son drove all the way from Sacramento to Seattle in 3½ days.

Bell Car in Southern California.

The Southern California agency for the Bell car has been taken by the firm of Hoffmann & Eaton, located in San Jacinto, Cal. A five-passenger touring and a four-passenger roadster make up the Bell line, manufactured by the Bell Motor Car Co., of York, Pa. The engine is four-cylinder, L-head and wheelbase is 114 inches.

Drives a 16-Year-Old Ford.

There is a man in Portland, Ore.—A. C. McCarthy—who purchased a two-cylinder Ford in 1903. He has been driving the old car now for sixteen years. He is credited with having refused on several occasions to exchange it for a new Ford, although the Ford company itself is said to have attempted several times to get him to "modernize" his motor equipment. McCarthy is further said to have remarked not long ago that the older the old car gets to be the more reliable it also becomes, and that he has had little trouble with it in recent years. "The car won't 'jump off' as the 'T's' do now," said McCarthy, "and she won't go 50 miles an hour; but she goes wherever I want to go, and just as I want to go. So what more do you want?"

California Laws a Model.

California's amended motor vehicle laws have become already the model of several other states. The law requiring mechanical and electric signals especially interests law makers in other states. Frank L. Eksward, father of California's new law was recently requested to frame a similar law at Phoenix for Arizona motorists.

Leach Car Interests Detroit.

Easterners, especially Detroiters, have been shaken in their skepticism over the Pacific Coast's ability to produce a quality car, is a fact evidenced in a recent letter to the Leach-Bilewell Co., of Los Angeles, builder of the Leach Power-Plus Six, from C. N. Graves, its Eastern purchasing agent.

"When I first undertook the purchase of standard parts here for the Leach car some months ago," says Graves, "I found any number of trade experts who openly expressed doubt that a quality car could be successfully manufactured on the Coast. After our purchases mounted to really sizable proportions I noticed a corresponding interest among those prominently identified with the industry in Detroit.

"They can hardly wait now to get a look at the Leach car. The car looks good from the photographs, they admit, and the specifications could not be improved on." Their opportunity to see the car will come at the national shows, where the Leach Power-Plus Six will be exhibited.

Makes His Own Drive-Away.

One solution of the automobile shortage caused by the factories' inability to get them to the Spokane, Wash., territory during the freight car shortage, has been worked out by L. M. Tebbels. He returned recently from a Chicago automobile factory driving a brand new car. He traveled overland from Chicago to Spokane, 2,675 miles, through rain and snow, over roads bad and good, averaging 18½ miles to the gallon.

Breeden-Otto are New Moon Dealers.

The newly organized Southern California Motor Co., of Los Angeles, Cal., distributor for the Moon car, has opened quarters at 955 W. Seventh St. At the head of the new firm are Roscoe M. Breeden and Henry B. Otto.

There are now several hundred Moon cars in Los Angeles, although the car has enjoyed its largest sales in the East and in Europe, where its resemblance to the famous Rolls-Royce car has made it very popular.

Branch offices will be opened in all neighboring cities and it is predicted that before long the silver crescent surmounting the radiator cap on all Moon cars will be very frequently seen on Southern California boulevards.

"Drive Your Own Car" Taxi Service.

Self-service in automobile use is the idea of a Los Angeles taxi company which has ordered from Harold L. Arnold a fleet of 31 Maxwells for the purpose of renting them to persons desiring to do their own driving at less expense than if a chauffeur were also supplied.

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NEW TRAFFIC LAWS FOR LOS ANGELES

A. C. of S. C. Submits Ordinance to City Fathers Designed to Modify Congestion in Downtown District.

After months of data gathering from other cities, the Automobile Club of Southern California has submitted traffic ordinance to the Los Angeles council. In many respects it resembles the present one. However, some features are quite different.

The number of areas in the congested class is increased and includes the Hollywood and University districts. Vehicles parking in such districts must have their wheels within 18 inches of the curb, instead of two feet. Between 9 a. m. and 6 p. m. all vehicles must travel southward in Hill or Spring streets, between Third and Seventh, and northward between the same hours on Broadway and Main, between Seventh and Third. Between 11 a. m. and 6 p. m., no delivery of freight or merchandise to be made in the congested district.

Fifteen instead of 12 miles per hour to be permitted in the congested district, in accord with the new state law; in fact all speed limits are changed to fit the state law.

No disposition was made of the Automobile Club's suggestions, by the city council, but the council on November 26 unanimously ordered the city attorney to revise existing traffic laws in five particulars. In the congested district left hand turning is to be forbidden; stops must be 25 feet from the property line at street intersections; pedestrians must not cross except at street crossings, and there only by traffic officer's signal; street cars are to be loaded and sent across intersections in twos, not singly, steam line switching during rush hours is to be strictly regulated.

The changes are those devised by Chief Engineer H. Z. Osborne, of the Public Utilities Department, and Chief Engineer Sachse of the State Railroad Commission. It is proposed they go into effect. No action was taken on prohibiting parking in congested areas.

Barney Always Trusted Engineers.

One of the big secrets of Barney Oldfield's success as an automobile race driver, continuously before the public for nearly 20 years, was probably his steadfast refusal to tamper with the design of the cars he drove.

Only in the detail of tires did the veteran Speed King declare independence.

So much more exacting were his tire demands when compared to those of the average motorist that he insisted on entrusting his life only to specially built tires which incorporated principles of material, size, workmanship, and design he himself had either established or personally tested.

This tire study and experiment had at first no incentive aside from the reduction of his racing risk. So notably successful did they become, however, that the "Master Driver" finally yielded to the persuasion of a group of wealthy friends and helped form the Oldfield Tire Co., of Cleveland, which, with Mr. Oldfield himself as president, is now reproducing in large quantities the tires which the Speed King developed and perfected.

National Sextet Coming to Coast.

The National Sextet car will soon be appearing in appreciable numbers in the Southern California and Arizona territory, where Fred Rutledge, for twelve years connected with the Indianapolis factory, has taken the agency. He has temporarily located the Rutledge Motor Car Co., at 310 W. Pico St., Los Angeles. Lines of remarkable beauty are found in the new Sextet model, which will develop 57.8 more horsepower than previous National models.

The chief features are the highly perfected oiling system, reaching every vital working part of the engine; the special provision for burning low-grade fuel; and the distinctiveness given by the front fenders, which are independent of the running board.

Crow-Elkhart Car in Southland.

The Crow-Elkhart car has been taken for Southern California by the Pico Motor Co., of 206 W. Pico St., Los Angeles. J. P. Gibson heads the agency and R. B. Frue is sales manager. The car is manufactured in a variety of open and closed body styles. The wheelbase is 117 inches. The Rutenber six-cylinder engine furnishes power. A smaller model is equipped with the Gray engine.

Adams-Hill Are New Representatives.

A new firm in the San Francisco field, the Adam-Hill Co. has opened offices at 96 Ninth St. in that city and will act as sales representatives and automotive engineers.

Both members of the concern are well known locally. P. M. Adams was associated with the A. H. Coates Co. for nine years; J. LeRoy Hill was with the Hall-Scott Motor Co. and went East on the staff of Col. E. J. Hall during the development of the Liberty engine.

The Adam-Hill Co. represents the Baldwin Chain & Mfg. Co.; A. R. Mosler Co., makers of spark plugs; Pierce-Governor Co., engine governors; H. C. Doman Co., tractor engines; and the Detlaff Co., clutches.

Celebrate Ninety-Day Success.

During the war year, 1918, the White Auto Co., of Los Angeles, Cal., began laying the plans for its own big drive. As a result the company's business during the recent month of October was almost three times as large as that handled during the first month of its after-the-war sales campaign. In August this year orders amounted to $80,127 on White trucks; September, $183,025; and October, $288,014. This is a total of $551,866 for three months. Forty-eight new accounts were added to the already bulging White roll call in Southern California.

The above facts were announced by O. R. Fuller, head of the company, at a recent meeting of the firm's sales organization celebrating the close of the successful ninety-day sales campaign. One salesman, L. H. Smith, turned in $136,734 worth of business during the period; another, C. H. Wondries, opened the largest number of new accounts, thirteen, and closed $103,576 worth of business.

Climbs Mt. Hamilton on High.

A remarkable performance has just been reported by the Farnsworth & Callahan Co., of San Jose, distributors of the Zenith carburetor for that city.

In a standard Ford roadster, equipped with a Zenith Special carburetor outfit, the run from San Jose to the top of Mount Hamilton and the Lick Observatory was made entirely on high gear.

Those familiar with this particular trip will no doubt confirm the fact that in view of the winding road and the rather abrupt pitches, this is a remarkable performance for a four-cylinder car, it being impossible to attain any great speed, owing to the curves and winding roadway.

Work on Beverly Hills Speedway.

On November 24, laying of 2x3 floor timbers began on the 1¼-mile, 50-foot-wide track of the Los Angeles Speedway Association, near Beverly. Its completion is expected by Christmas, and that of the entire plant by February 1. Lumber is being delivered at the rate of 100,000 feet per day and work on the grandstands will begin soon. The entry list probably will begin to grow after the holidays. Manager A. M. Young and Jack Prince, in charge of construction, are very busy men.

Republics Go Well in South.

Southern California took 332 Republic motor trucks in the period of eight and a half months elapsing between March 1 and November 15 this year. Harold L. Arnold is distributor for the Republic in the southern part of the state.

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SEATTLE FIGHTING TO GET CAR QUOTA

Despite Increased Output, Strikes and Fuel Shortage Affect Deliveries—Dealers Spend Profits in Wires.

Labor troubles and fuel shortage, as they affect the railways and factories, are causing Seattle and Washington dealers great concern, according to the Washington Automobile Chamber of Commerce. Despite increased factory output, many Western Washington distributors still have empty show rooms, a condition more common among car dealers than those handling trucks.

However, more dealers than ever before are promising early deliveries, among them those representing Templar, Comet Six, Apperson, Mitchell, Anderson Six, Stephens, new Winton Six, Lex-Sedan, Hupmobile, Chevrolet, Oldsmobile and Columbia.

Notwithstanding delays in travel caused by winter conditions, shipments of cars and trucks seem to be arriving in increasing volume. Two carloads of Oldsmobiles recently reached J. W. Hainworth; the Apperson dealer received a carload of Anniversary models; the Cascade Motor Co. reports the influx of Stephens Salient Sixes as being very regular and in large numbers; several recent Four-Ninety shipments have gladdened the heart of W. S. Dulmage, Chevrolet dealer, and Ed Roesch was accommodated with seven carloads of Atterbury trucks.

On the other hand, illustrating the chaos that still crops up in railroad management, the Greater Motors Corp. has lately received a carload of Templars which were en route for two months and on which the profit value was "burnt up" in telegrams.

Hupmobiles are now sufficiently numerous to cause the Sunset Motor Co. to promise deliveries with a minimum of delay, for the first time in eight months. On the Columbia Six Merritt Goble can make prompt and consistent deliveries, but finds it necessary to demand a larger allotment. After months of waiting the Mitchell dealer is able to promise immediate delivery.

Out-of-town demand for Stephens Salient Sixes and Saxon cars is reported as very good; the Saxon finds especial favor in southwestern Washington. Two carloads of Comet cars have placed the Comet Motor Sales Co. very favorably. The Anderson Six dealer reports demand as brisk and some difficulty in fully meeting it.

A new firm, the Dragon Motor Co., handling three new cars in this territory, the Jones, Maibohm and Ace, has discontinued retail business and will concentrate on wholesale. Jones cars will soon be rolling into the city in large numbers; for the Maibohm the out-of-town dealer demand is very favorable; the railroad situation has interfered with Ace car shipments, but a carload is expected to reach Seattle about the end of the month.

Latest arrivals in the car agency field are the Geronimo Six and Texan Four, both being taken by C. J. Palmer, who thus increases his line to include five car agencies.

November, from all signs, was a good thirty days for motor truck dealers. Within forty-eight hours early in the month the Eldridge-Buick Co. sold 19 G. M. C. trucks to 16 firms. Immediate deliveries are promised on International, Commerce, Comet and Atterbury trucks. Recent shipments have possessed the Olsen-Warren Motor Co. with 35 International trucks to fill orders. Deliveries on many lines of heavy truck models remain still uncertain, but shipments on lighter capacities are regular.

Several notable men prominent in the automobile industry have appeared in Seattle recently, among them R. C. Rueschaw, vice-president and general manager of the Mitchell Motors, Inc.; W. E. Beckwith, sales manager of the Jones Motor Car Co., and John T. Spicer, general sales manager of the Thermoid Rubber Co.

Licenses Due One Month Later.

Motor car and motor truck owners in California are reminded that the annual payment of licenses fees becomes due on February 1, instead of on January 1, as in previous years, in an announcement issued by P. J. Tehaney, superintendent of the California motor vehicle department.

The change was made, through an amendment passed by the 1919 state legislature, in order to avoid the congested condition of the mails during Christmas time. Payments now become delinquent March 1, instead of February 1.

Ridge Route Not Yet Straight-Away.

The Ridge Route is now open for the first time in eight months and is already accommodating a great volume of motor travel between Bakersfield and Los Angeles. There is one marring feature, however, in the form of an extremely poor detour just above Rose Station. Two machines cannot pass it abreast and wet weather will probably add danger to the difficult going.

Republic Tire Co. Incorporated.

The Republic Tire Co., Los Angeles, has been incorporated by W. A. Corder, Walter Cox, L. E. Philips, with capital stock, $25,000.

HOW THE U. S. TIRE CO. AIDS AND INSTRUCTS THE MOTOR TRAVELER.

"You are now leaving Venice—A world-famous amusement place. Its broad canals running along the streets and much of the architecture make this city similar to Venice of the Old World." Looming up beside an abrupt swerve in a California boulevard traveled daily by hundreds, on holidays by thousands of automobiles, is this counterpart of the hundreds of other similar signs erected beside the highways throughout the country, and bearing the additional message: "United States Tires Are Good Tires."

Usually placed in head-on positions at road turns the traveler is confronted with a huge open book, flanked on the right by an ink bottle, out of which extends a great quill pen behind the book and showing its tip above it. It is a billboard 38½ feet long, 14 feet wide, seizing and retaining the eye of the most sign-hardened traveler.

One of the open-flung pages pithily gives the history of the locality or town; the other advertises United States tires and the familiar blue-ribbon trade mark of the United States Tire Co. acts as a book-mark.

The wealth of history that hovers over the main highways of the Pacific Coast is fully recognized by the O. J. Gude Co., which has the contract for building and painting the boards. The passing motorist reads the messages they have to tell and instantly is reminded that these miles of highways rolling swiftly, effortlessly and luxuriously under his wheels were years ago weary distances under the feet of Indians, conquistadores, missionaries, and settlers.

Not only individual travelers but civic leagues and chambers of commerce have voiced their approval to the United States Tire Co. Invariably their comments have been complimentary, showing they realize the value of the signs to nearby towns. Shortly after the signs were placed in California the United States Tire Co. branch in San Francisco received the following letter from an interested motorist:

"Recently I made a trip by automobile from Los Angeles to San Francisco by way of the Coast route and our party noted with very much interest the interesting signs you are erecting along the way. I am not an advertising man, but believe this is the nicest piece of advertising that has ever been done in California, and one that will (or should) be appreciated by all Californians, as well as by the tourists and traveling public."

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Motoring Along Southern California's Sea-Shore

Coast Road From San Diego North Affords Traveler in Winter and Summer Alike an Endless Panorama of Unique Charm and Fascinating Beauty---Ideal trip for Easterner Who Comes Here to Escape Rigors of His Snow-Bound and Frost-Bitten Home.

TO THE "globe-trotter" surfeited with Swiss chalets, Norwegian fjords, Italian and French art galleries, Chinese pagodas, and the castles and prisons of Continental Europe with their array of historical "junk," a tang of the unusual comes with a zestful fillip. To a wanderer of this sort there will be nothing which can hold such an infinitely varied perspective as a motoring trip, winter or summer, along the Southern California sea-shore, starting either from Los Angeles or San Diego, and traveling north to Santa Barbara. It is an endless panorama of unique charm and fascinating beauty. It is a trip which can be taken with a due regard to proceeding leisurely, keeping Walt Whitman's valuable hint in mind,—"I loaf, and invite my soul."

Much of this journey may be made within sight of the sea. Hundreds of miles of it close to the shore-line. All the sights and novelties which the beach cities and resorts afford, all the color, light, laughter, motion and music in which these gathering-places revolve and revel will greet the traveler, and leave him with a host of unforgettable memories. And then, within a half hour, he can whirl away over perfect highways to bask in the sunny solitudes of ocean retreats where only the curlews dot the sands; where nothing but the sunlight and the gray beaches lend color to the scene; and only the waves, breaking on curving shores, make music to his ears.

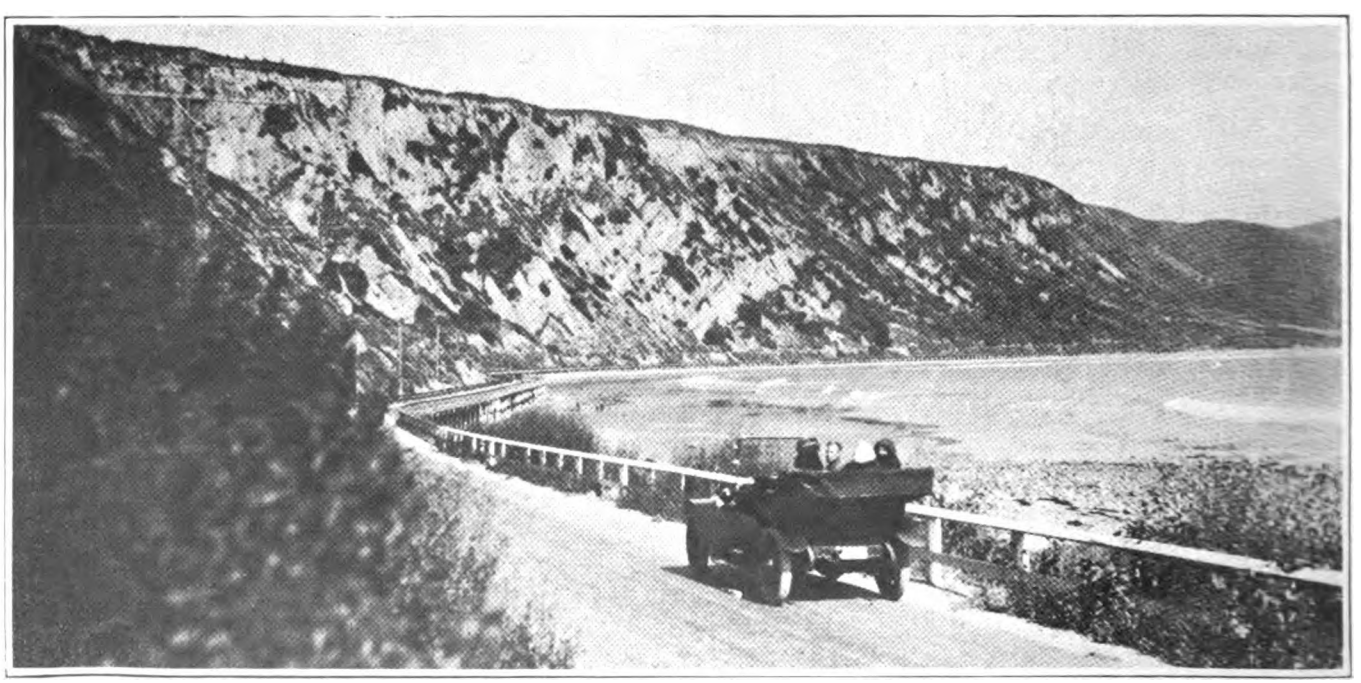
"Like some lone, wild creature that paces all day
Back and forth behind bars, in a dumb, strong wish to be free,
So paces forever, all haggard, insistent and grey
On its earth-bound shores the mysterious soul of the sea."

There is something peculiarly magnetic in the lure of the ocean. All days and seasons it is never the same. And at night, with attendant moon and stars, it grows even more entrancing in its manifestations. In this trip alongshore the traveler will see strange contrasts of the practical and the poetical. He will come across oil wells extending far out into the Pacific near Santa Barbara, pumping oil up from deposits reached by drilling under the sea water. He will find at other points pictures of woodlands, mountain peaks, and sequestered sea-nooks which will put to the blush all mimicry of nature's wonders traced by the brushes of mere mortal painters.

"By sea and shore and forest
O'er cliff and canyon flung,
Framed in by night and morning
Are God's great pictures hung."

Sometimes on an adjacent slope to the coast the traveler will catch a glimpse of a golfer, standing carved in picturesque attitude, poising for a swing before delivering the stroke. Sometimes he will see a surf-angler, knee-deep in advancing tides, casting far and beyond the first approaching swell, and letting the sweep of the incoming waters bring his bait ashore. Occasionally he will pass a hunter, climbing the foot-hills for deer or quail. And he may, if he be especially fortunate, get a fleeting glance at some sly old coyote, loping for the cover of a near-by canyon. There is change and variety in almost every mile of traveling.

Where the highways swerve back into the hills, the visitor will find groves of live oak, sycamore, pine and other trees, and in some localities, avenues or groves of the eucalyptus, with its smoothly polished leaves and tattered bark, and its tall and slender trunks. In these inland excursions the farms and ranches come to view, and here again the sense of novelty impresses itself upon the beholder. Orange and lemon groves now flash in sight,



ON THE RINCON ROAD, WHICH CLOSELY FOLLOWS THE SEASHORE BETWEEN VENTURA AND BEAUTIFUL SANTA BARBARA.

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WHERE ROAD SWINGS BACK FROM SHORE THERE ARE VISTAS OF HILL AND MOUNTAIN, WITH GREEN EVERYWHERE.

the golden globes of the oranges glittering through canopies of green leaves, and thickly clustered masses of lemons sometimes bending the limbs they are on almost to the ground with the weight of the fruit. Here, too, are fields of alfalfa, beans, sugar beets, pastures with grazing troops of horses, and, almost suspended from precipitous slopes, cattle cropping the short grasses of lofty-outlined feeding grounds.

Sometimes a river is passed, with perhaps only a thread of a stream in its bed. But the long and superbly-built bridge bears eloquent testimony of the sweep of wild waters in the winter months. All along the roads everywhere are the guiding and warning signs of the Automobile Club of Southern California, telling the traveler which way to go, and cautioning him of grades, curves or nearby railway crossings. This system works for special comfort and safety in using the highways of Southern California. In the towns and cities along the route will be found good hotels and up-to-date garages and supply stations, so that visitors can stop over each night for rest and refreshment, and be certain of first-class service in case of any motor repairs being needed.

The Old Spanish Missions, with their quaint architecture of a bygone day will prove one of the particularly interesting features of this journey, and a complete itinerary can be had from the offices of the club at either Los Angeles or San Diego before starting north. The beach cities along the route offer many points of interest to travelers, and ample hotel and garage accommodations will be found in all of them. Among other notable places to be visited will be the military and aviation posts along the route, and information concerning these will be given at the same time the itinerary of the journey is furnished.

Sea-bathing can be enjoyed in the surf at many beaches, and salt water swimming at the natatoriums in the various resorts. Surf-fishing may also be indulged in at numerous points along the coast. Fishing from the piers in the coast towns is another branch of angling which the traveler can find at several towns, and the finest of deep-sea fishing for the real "leviathans of the deep" is available at San Diego, Long Beach and other of the Coast towns and cities. It can be said of the beach resorts that their name is practically "legion." Ocean Beach, Pacific Beach, La Jolla, Delmar, Oceanside, Laguna, Balboa, Newport, Huntington, Sunset, and Seal Beaches, Naples, the famous resort and city of Long Beach, Redondo, Clifton, Manhattan Beach, Hermosa, world-celebrated Venice and Ocean Park are points from San Diego north, while the harbor of Los Angeles, at San Pedro, is a center of interest vastly worth an entire day of sight-seeing. Further up the coast is Ventura, with beautiful side-trips into mountain valleys and canyons, and between Ventura and Santa Barbara the magnificent Rincon Road, a sea-abutting highway hemmed in by the mountains which offers unsurpassed views of the sea, which washes almost to the road's edges at places. At Santa Barbara will be found one of the most beautiful cities in the world. Here the traveler may well spend three or four days, taking side-trips out to the Hope Ranch, the valleys and canyons about the city, the trips along the coast, and in viewing the incomparable residences for which Santa Barbara is noted.

All that is really essential in this trip is a reliable motor, a couple of good fishing rods, a camera to take the most striking beauties found on the journey, and moderately heavy wraps for night driving. Everything else can be purchased along the way, and even the magazines and the metropolitan dailies will be found at the book-stores and news-stands in the towns and beach resorts. Take the trip anywhere from April until the middle of October, and you will be nearly certain to be immune from rain. The tri

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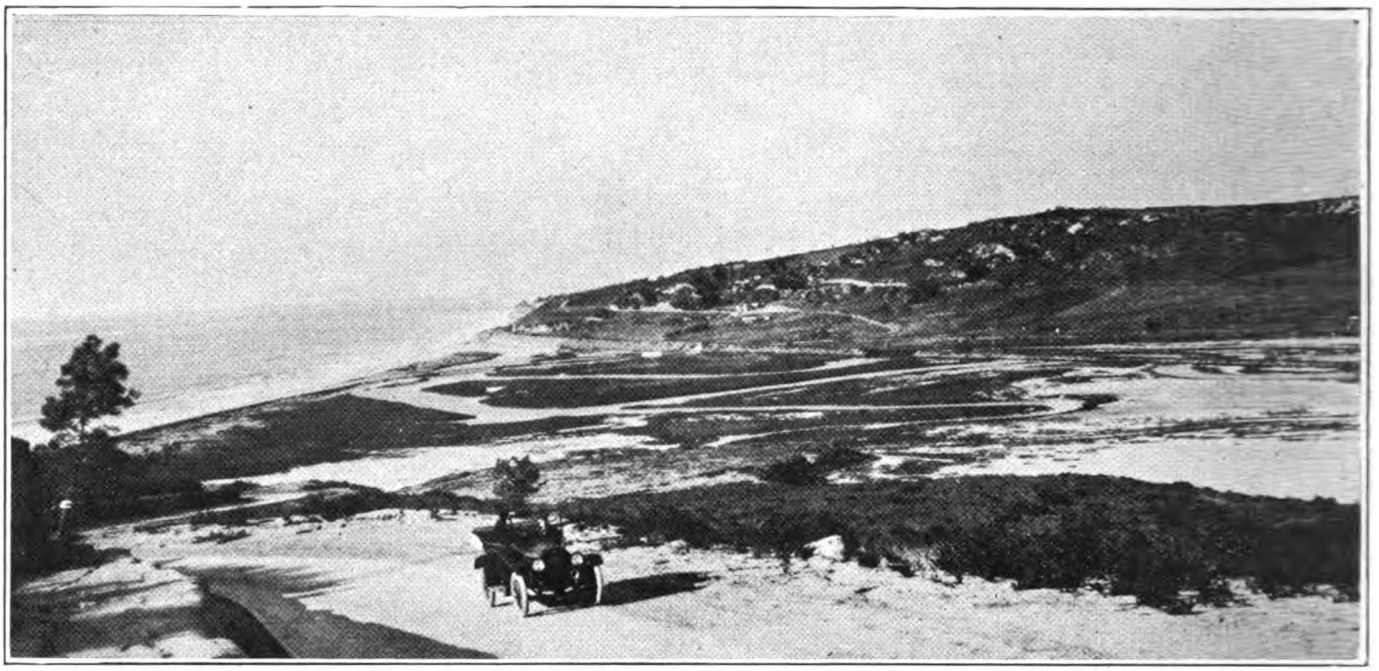

ON THE FAMOUS TORREY PINES GRADE, WHICH CARRIES THE BROAD HIGHWAY FROM SEA LEVEL TO THE MESA ABOVE.

in winter, also, is a fascinating one, as winter is a sort of a twin-sister to summer in Southern California.

Bird life is quite observable in such a journey. Along the sea-shore will be seen many gulls, and occasional pelican, and also various shore-birds such as sandpipers and curlew. Inland you will come across valley quail, hawks, doves, wood-peckers, jays, sage-hens, black-birds, meadow-larks, magpies, shrikes, and others of the feathered tribes. Once in awhile you will spy the alert and militant road-runner, conqueror of the rattle-snake, a most pugnacious and formidable-looking bird, and nearly as large as a spring chicken. On the lakes you sometimes pass, will be found ducks of different species in the season, "sprigs," butter-balls, widgeon, teal, spoon-bills, mallards, etc., and jack-snipe are hiding in the cover around these tule-bordered pools. Buzzards float and poise like black clouds far on high, and over the mountain canyons a stray eagle is sometimes sighted, circling upward on steady pinions.

Of animal life the traveler will see an occasional deer, a few rabbits, and hundreds of ground-squirrels, and in the timbered districts numbers of tree squirrels. Skulking coyotes are infrequent, but they are sometimes spotted, and always moving. Taken from its numerous angles this coast trip is one which will impart a thrill of pleasure to the most blase of world-wanderers. It will give him a vision of the unusual from a many-faceted diamond of nature's own cutting. It is a journey which no man or woman should miss who can afford the time, and the moderate expense. It can be covered in comfort, and even luxury, and scenically, historically, and judged in the analysis of unique enjoyment, it cannot be duplicated the world over from a motoring-trip point of view.

Work on Lincoln Way in Three States

H. C. Osterman, vice-president and field secretary of the Lincoln Highway Association, reports a wonderful piece of construction by the Utah state highway department, of the new Lincoln Highway route through Fisher Pass. This was accomplished through the contribution by Carl Fisher, vice-president of the association, of $25,000. It completes a much needed link. The work is declared equal to any mountain work in the West.

A short but heavily traveled three miles, on the Lincoln Highway connecting Wadsworth and Fernley, Nevada, will be concreted early next year, the state bearing two-thirds, Washoe County one-third the cost. The sandy soil has made maintenance expensive enough to warrant the improvement.

In California, a fine 14.3 miles of concrete construction has been completed by the state, on the Lincoln Highway, in three sections—10.3 miles in Eldorado County on the road south of Lake Tahoe, costing $250,000; 15 miles through Rocklin, Placer County, costing $22,000, and 2.5 miles in San Joaquin County, costing $63,500. The state highway department plans an ultimate concrete boulevard from San Francisco to Sacramento, thence on both roads around Lake Tahoe to the Nevada line. A concrete road around the lake is also contemplated. The present roads from the lake to the concrete at Placerville are fine.

Gasoline Output Being Maintained

Figures from the Bureau of Mines, compiled by Oil Age, show that the output of gasoline by the refineries in the United States in the month of July, 1919, was 342,491,757 gallons, being a daily average of 11,048,121 gallons. This compares with the daily average in July, 1918, of 10,710,390 gallons, and with the same month in 1917 of 7,875,655 gallons. California's proportion of the total output in July, 1919, was 39,308,164 gallons.

Stocks on hand at the end of July were much higher than during the same time in either 1918 or 1917, the respective figures for the three years being as follows: 1919, aggregate, 514,919,358 gallons; 1918, aggregate, 349,928,604 gallons; 1917, aggregate, 345,199,195 gallons.

Stocks of gas oil, lubricants, wax, and miscellaneous products were all in excess of the preceding year, but the stocks of kerosene were materially reduced, there remaining on hand July 31, only 297,855,061 as compared with 432,807,129 gallons at the same date in 1918 and 516,752,342 gallons at the same date in 1917.

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Send in Your Data

The following self-explanatory letter has been received from Hugh C. Gibson, of the Society of Automotive Engineers:

Editor MOTOR WEST:

A paper on "Bettering Efficiency of Existing Engines" will be presented by me at the winter meeting of the Society of Automotive Engineers, to be held in New York, January 6th to 8th, 1920.

A large proportion of the gasoline used for six million or so automotive vehicles operating in the United States is rendered not only valueless as a source of power but, in addition, is conducive to premature wear of the engines and to vastly increased cost of operation of not only pleasure vehicles but of food producing and transporting apparatus.

This fact is recognized by the automotive and petroleum industries who are now co-ordinating for the purpose of preventing this undesirable wastage. There are three main avenues for accomplishing the purpose.

1. Improvement in the fuel—not very promising at the price and in the quantity demanded, and, in any case, not immediately applicable in universal manner.

2. Complete change of engine design. This should come in time, but will not be retro-active and cannot care for the six million machines now in operation nor those which are to be produced within the next two years.

3. Adoption by manufacturers of devices for converting liquid fuels into gases ready for use in the engines. This holds immediate promise of solution of the problem for all immediate needs, inasmuch as there is no difficulty in the way of applying the necessary apparatus to engines now in course of production and also to the above mentioned six million vehicles now in operation and to all automotive farm implements using Internal Combustion Engines.

My present object is to collect, for presentation in my paper all information regarding the various apparatus including carburetors, heating manifolds and every other type of device that has been developed in practical use, with full information as to their design, functions and any records of actual test results in economizing the use of gasoline and providing less pollution of the engine by reduction of carbon deposits, pollution of crank case oil, etc. I am particularly anxious to secure all data of authentic tests, both of large and small scale.

It appears to me that manufacturers and promoters of such devices as have proven their value would be willing to furnish me with this information since it must have the effect of aiding in the furtherance of their business aims. Any co-operation that you may feel willing to give in furthering my object will be heartily appreciated, and I would urge that the time for collection of this data is none too great, there being just two months between now and the date of presentation.

Yours very truly,
HUGO C. GIBSON.

Canada to Have Ocean-to-Ocean Highway

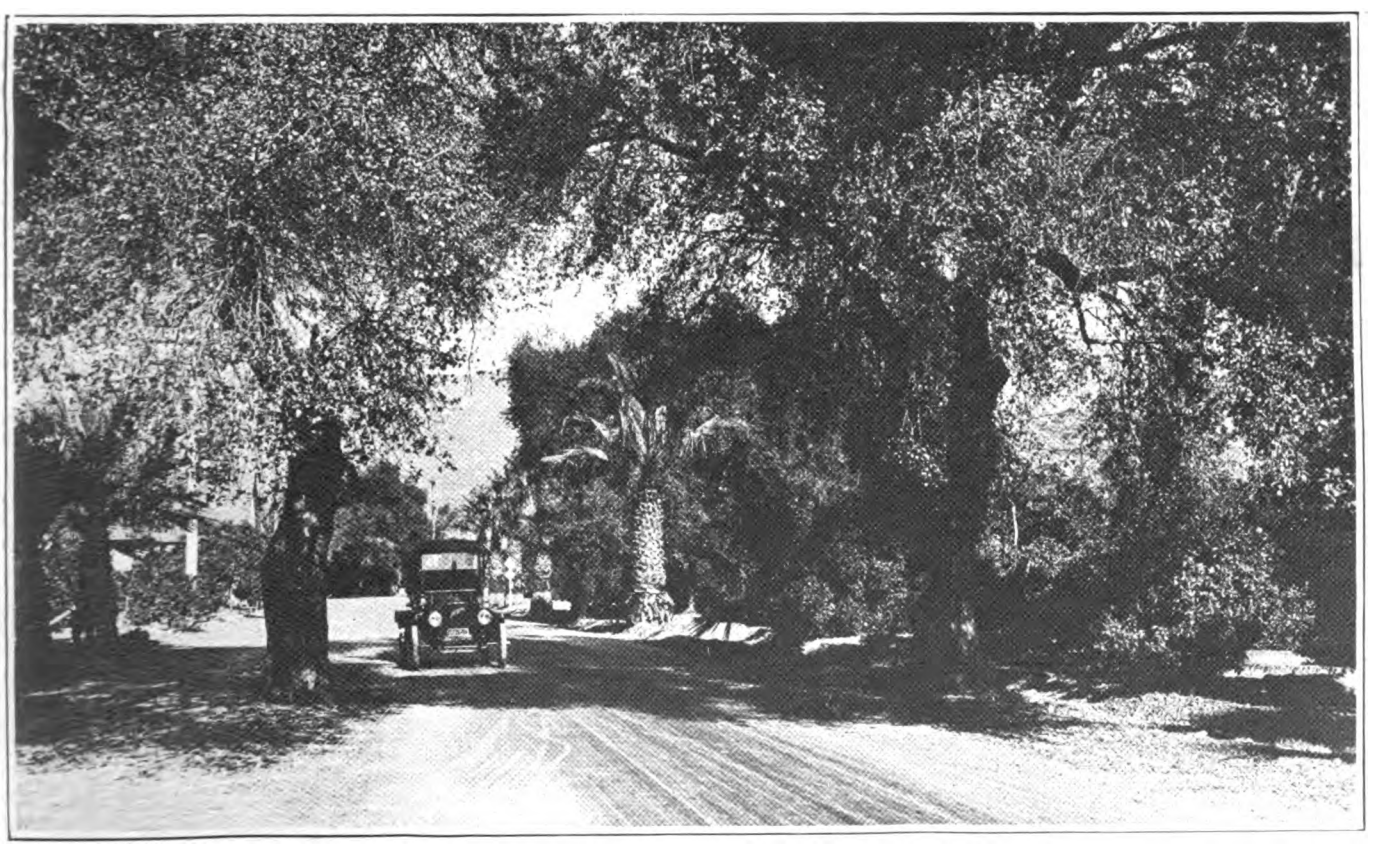
The Lincoln Highway will soon be duplicated in Canada. Definite plans have been formulated for the organization of an association along the same lines as the Lincoln Highway Association, pledged to construct a great transcontinental road from Halifax to Vancouver. The Dominion and provincial governments are all keenly interested in the movement, and committees have been formed in many cities for the furtherance of the project of linking the oceans by roadway. Branches of the organization have been formed in all of the provinces that will be traversed.

Interesting Talks and Tours by N.A.C.C. Men

The book, "A Journey Around My Garden," was exemplified in the recent convention of the National Automobile Chamber of Commerce in Detroit. The journeys consisted of excursions to Detroit automobile and motor truck plants. The talks ran the whole interesting gamut, one of the notable ones being on a plan for controlling the source of supply of spare parts and material, to combat pirate part competition.

Protection League for Motorists Formed

The Protection League for Motorists has been formed in New York State. Law-abiding drivers are enrolled as a sort of unofficial police force, to note and report to headquarters cases of reckless driving. It is aimed also to obtain more equitable rates on fire, theft, liability, property damage and collision insurance.



BACK FROM OCEAN, ON FOOTHILL BOULEVARD, THERE ARE SCENES OF TROPIC BEAUTY TO BE ENCOUNTERED.

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Prepare for National Shows

Chairman Miles' Cohorts Already Busy on Plans for Big Exhbitions in New York and Chicago

THAT the New York and Chicago automobile shows will constitute a more complete exposition of the automotive industry than ever before in the successful history of these shows is apparent from a statement issued by Manager S. A. Miles, that there will be on display 87 different makes of passenger cars, 70 of motor trucks and 284 accessories. Of the passenger car exhibitors 34 have entered both the New York and the Chicago Shows: two will appear in Chicago only and one in New York, only. At the New York Motor Truck Show no fewer than 63 different makes of trucks will be displayed, while to date 50 makes have secured space for the Chicago truck show.

The New York passenger car and truck shows will be held during the week of January 3-10, while the Chicago show will be held January 24-31. In New York passenger cars will be exhibited on four floors of Grand Central Palace, while the truck exhibit will be held in the 8th Coast Artillery Armory, the largest in the United States. The Chicago passenger car show will be held in the Coliseum and Armory, while trucks will be displayed in the International Amphitheatre.

In addition to this comprehensive display of cars and accessories a series of conferences on transportation problems has been incorporated in the Motor Truck divisions of the shows. These conferences have aroused general interest as a clearing house for ideas gained during the war and reconstruction periods and made concrete in new models of cars and accessories on display.

Motor transportation as an auxiliary to the railroad, is one of the topics of special timeliness to be discussed during the conferences. Contrary to the general belief the motor truck is not competing with the railways, but is aiding the roads to solve a national transportation problem that is really serious. Motor trucks are replacing railroads on the short haul, which has been unprofitable and in many instances extravagant transportation. It is demonstrating to railroads that it can pick up and haul from the branch receiving stations in and around a large city to the main or outbound station considerably faster and cheaper than the switch engine.

The truck has a great advantage over the branch line railroad in that it has no expensive initial investment, no payments to be made for right-of-way, no bridges or grades to construct. If the truck or trucks do not pay, being a mobile unit they can be transferred elsewhere. Were it easy, practical or profitable many railroad tracks would be torn up and replaced elsewhere on many branch lines today.

Utilization of motor trucks for feeders to the main line railways, and for short haul work, will conserve vast amounts of coal and fuel. It is estimated that 25 per cent of the coal mined in this country is consumed by the railroads. The railway traffic for a given year was one trillion ton-miles. To transport this tonnage required 100,000,000 tons of coal and 40,000,000 barrels of fuel oil, and of this 12 per cent of the coal was consumed for railway purposes. With the construction of terminals and greater use of trucks to feed these and the main lines, the elimination of expensive and unpractical equipment, coal-consuming equipment will be feasible.

Construction of large capacity trucks, of trailers, and the use of demountable bodies that permit of the truck shuttling back and forth, as well as scientific loading apparatus, spells decreased transportation costs.

Despite the fact that the Eighth Coast Artillery Armory in which the New York Motor Truck Show will be held January 3 to 10, has more than 150,000 square feet of unbroken floor space and is the largest armory in the country, there will not be one inch of exhibition space unoccupied when the big New York truck display opens.

The grand ball room of the Commodore Hotel in New York has been engaged for the annual banquet of the National Automobile Chamber of Commerce to be held on Tuesday evening, January 6, 1920, which is during the New York Show.

Besides the one speaker which it is customary to have at N.A.C.C. affairs, there will be a presentation of awards to individuals who have rendered important service to the industry during the past twelve months and an original play on timely topics in the industry written and staged by Fred E. Dayton, vice-president of the Ajax Rubber Co., and Henry Caldwell, automobile editor of the New York Herald.

With the additional accommodations that the Ball Room provides, it will be possible to care for a number of men in the industry aside from the motor car and motor truck makers who are members of the N.A.C.C. Balcony seats will be provided for ladies who wish to attend.

Carload Shipments Beat All Former Records

According to reports received by the Traffic Department of the National Automobile Chamber of Commerce the carload shipments of motor vehicles in October amounted to 29,742 carloads compared with 10,667 carloads in October, 1918. The largest previous month's shipment was 29,622 carloads in March, 1916.

Steam Already On For Chicage Show

Congress hotel, Chicago, is already solidly booked for the automobile show in January, and S. A. Miles, manager of that and the New York show, has temporary offices there.

Calendar of Coming Events

Dec. 20—Ascot Park, Los Angeles, Cal., Races.
Jan. 3-10, 1920—New York National Automobile Shows (Passenger Cars and Trucks).
Jan. 4—Ascot Park, Los Angeles, Cal., Speedway Race.
Jan. 8—First Aeronautical Exposition, Chicago, Ill.; Auspices Manufacturers Aircraft Assn.
Jan. 21-25—Spokane, Wash., Second Progressive Automobile Show.
Jan. 24-31—Chicago National Automobile Shows (Passenger Cars and Trucks).
Feb. 9-14—Kansas City, Mo., National Tractor Show: Auspices Kansas City Tractor Club.
Feb.—Seattle, Wash., Automobile Show.
Feb. 21-28—Fourth Annual Pacific Automobile Show, Auditorium, San Francisco, Cal.
Feb. 22—Beverly Hills Speedway.
Feb. 23-28—Portland Automobile Show; M. O. Wilkins, Mgr.

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Boyer's Turkey Sweepstakes

Frontenac Star Cleans Up Fast Field in Thanksgiving Day 50-Mile Race at Ascot Speedway

THAT the public favor lavished upon automobile racing since the end of the war is no flash-in-the-pan affair was demonstrated on the opening day of the four-day racing program staged at Ascot Park, Los Angeles, Nov. 27-30. Close to 50,000 persons thronged the park, spectators lined the one-mile length of the track three or four deep and both inside and outside the track grounds automobiles were parked for blocks in every direction. Not all were drawn by the 50-mile automobile race; a series of horse races drew many enthusiasts to see pure muscle-power speed perform again on its ancient stamping ground.

Joseph Boyer finished in first position in the 50-mile race, driving a Frontenac. Second and third positions were also taken by Frontenacs, driven by Roscoe Sarles and Joe Thomas, respectively. Boyer leaped into the lead at the very start. He drove at an average rate of 74.89 miles an hour, fast enough to prevent the eleven other starters from ever seriously menacing his position and leaving them to fight for second position among themselves.

Driving a Peugeot, Arthur H. Klein, former aviation lieutenant, gave Boyer a brief battle early in the race but a numbness in the arms hampered Klein and he finished in fifth position. Ira Vail, Philbrin Special fought a see-saw battle with Klein for some twenty-five laps, then Reeves Dutton, in the old Stutz No. 8, of Earl Cooper fame, seized second place.

Vail was barely distanced by Dutton and the almost neck-and-neck contest gave cause for one of the most spectacular accidents ever seen on an automobile speedway. Passing the grandstand at nearly 90 miles an hour Dutton entered the turn applying the brake and skidded wildly. The Philbrin Special contacted with the Stutz in a broadside crash and the entangled cars hurled themselves toward and over the safety rail 30 feet away and down the 20-foot embankment. The lives of a score of too-eager spectators crowded to the fence, in defiance of the numerous warnings of the track management, were endangered and that only Vail was seriously injured and five spectators painfully bruised was a marvel. Nervous shock and chill contracted from a fast ambulance ride makes Vail's condition serious. His mechanic was uninjured and Reeves Dutton and his carmate escaped practically without a scratch.

The starter's yellow flag of warning necessarily slackened the speed of the rest of the field after the accidents and the quick consuming of the laps at above 80 miles an hour was thereafter not seen so frequently.

Human nature was demonstrated at Ascot as anywhere else. According to George R. Bentel, chairman of the Ascot Speedway Association, the largest police force ever called to Ascot was present to overawe the crowd out of dangerous places. The track management's warnings, oral and sign-posted, were numerous and insistent, but the congestion that quickly gathered around the two wrecked cars exposed hundreds of persons to hurtling death had the one and only accident of the race been duplicated by a similar mishap.

The order of the finish was as follows:

First—Joseph Boyer, Frontenac.
Second—Roscoe Sarles, Frontenac.
Third—Joe Thomas, Frontenac.
Fourth—C. H. Kirkpatrick, Detroit Special.
Fifth—Arthur H. Klein, Peugeot.
Sixth—Eddie Pullen, Chevrolet Special.

Pullen relieved Cliff Durant in the Chevrolet Special. Toland Nicholson, Hudson, was flagged in the 49th lap; Eddie Hearne, Chevrolet Special, went out, broken valve, 27th lap; Eddie Pullen, Locklear Special, 8th lap, burned-out bearing; and Kenneth Goodson, Frontenac, out 6th lap, broken valve.

Getting Ready for Glidden Tour to Coast

The outlook is that the rejuvenated Glidden tour, to be run next September from New York to Los Angeles, will be via Lincoln Highway. It is proposed to have two divisions, one in which makers will compete, the other for owners, a trophy for this having been offered by Henry E. Joy. The plan is for the makers' division to wait 24 hours at every stop for the owners' division, and for the latter to make every start 24 hours after the other.

The committee put in charge by Richard Kennerdell, contest board chairman of the American Automobile Association, includes S. A. Miles, E. S. Hare, W. E. Metzger, C. G. Sinsabaugh, Alfred Reeves and others.

The car owner entries will run with the Glidden tour, but they will compete for a Lincoln Highway trophy, according to Bement's plan. He also suggests a class for pneumatically equipped trucks, running under different rules and for another trophy, this last event being primarily to promote interest in trans-continental motor trucking possibilities.

The Lincoln Highway would be the route throughout its length, it is suggested. It is estimated that there will be no less than from 40 to 50 cars entered by manufacturers; from 100 to 200 cars by tourists, and 50 to 60 trucks, making 300 motor vehicles taking part in the 1920 Glidden tour.

Seiberling Supports Lincoln Way Branch to L. A.

The location of the big Goodyear plant at Los Angeles, Calif., has greatly stimulated interest in the establishment of a branch of the Lincoln Highway leading from Ely, Nev., to Los Angeles, a distance of 770 miles. Ely is the first big town reached after crossing the great desert section of the Great Salt Lake country. F. A. Seiberling, president of the Lincoln Highway and of The Goodyear Tire & Rubber Co., suggests that the new spur should run to Oasis by way of Tonopah and Goldfield, then through the Owens river and Antelope Valleys to Los Angeles. This would mean 500 miles in California and 270 in Nevada. The Automobile Club of Southern California has already signposted the entire route and with the backing of that organization and of the Lincoln Highway Association, it is expected that both the states of Nevada and California will construct their portions of the Ely-Los Angeles highway.

In easy steamship connection with Japan and the United States, Vladivostok, Siberia has so far escaped the scourge of Bolshevism and resulting anarchy and starvation. Spark plugs there, however, cost $10 apiece at present.

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Motor West
THE MOTORING AUTHORITY OF THE PACIFIC COAST

Established 1907

AN ILLUSTRATED AUTOMOBILE MAGAZINE OF QUALITY, ISSUED SEMI-MONTHLY.

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DECEMBER 1, 1919

"See America First--Europe Later"

AN ADDRESS thrilling with patriotism and clear, convincing diction was that of Herbert Cuthbert, to the commercial and tourist secretaries of the whole Northwest, at St. Paul, Minn., recently.

He said the fundamental need, to prevent about $1,200,000,000 per annum being spent by tourists in Europe, was to first convince ourselves of what we have to offer. He said:

Suppose one stood at the door of one of the chalets in Switzerland, drinking in the beauty of those wondrous mountains. Would he not feel almost bereft to think that they belonged to others? But, if one stood in Rainier National Park, as I did, on the veranda of Paradise Inn, 6000 feet above sea level, above the timber line, on a glorious summer night, in the cool, pure light of a full moon, enthralled with the wondrous majesty and beauty of that silver dome, rising 9000 feet above me,—almost so close that one felt all he had to do was to put out his hand and touch it,—clothed in the God-given dress of eternal snow, and felt that it belonged to him as it did to a hundred million other Americans, and realized that this vast country is filled with such treasures of art which belong to the people and are their very own, how the depths of his heart would be stirred by the pride of possession and his love stimulated for his home land! Surely, if we can implant the desire in every American heart and mind to see these inspiring and unlifting beauties of their country, we will create such a tourist travel that no amount of advertising or publicity on the part of Europe can divert.

We have never yet recognized the utility of beauty to create a patriotism, such as I have already spoken of, amongst our own people and in our own children for their own land, and to make them eager and proud to see it.

He told the need of Congress doing more to develop our national parks; of the need of advertising our scenic beauties with as much zeal as our human beauties are advertised in depicting life and fashion in public prints; of advertising our superior railway traveling facilities, and so on. He asked, and answered:

The question might be asked in all seriousness. Have we in this country attractions equal to those of Europe? In answering this query I may be pardoned for speaking of the section of the country which I know best. In this Pacific Northwest we have all that Europe can offer. In our inland seas we have a Mediterranean; in our two thousand miles of rugged coast line we have fjords far exceeding in beauty and grandeur those of Norway; in our mountain peaks and ranges, covered with eternal snow, we have the area of forty Switzerlands; we have a Rhine in the Columbia River; our lakes are more numerous than all the lakes of Killarney and of the English lake regions, and as beautiful. Atlin Lake alone, is one hundred miles in length. In our primeval forests of giant evergreen trees, towering three hundred feet above us, we have all the forests of Europe equalled, and in our streams, rivers and lakes we have every known kind of sporting fish. For our salmon, fly-fishing people visit us from all parts of the world.

These are only the attractions of the part of the country from which I come. You gentlemen have a different story to tell of the attractions of your own section.

Very lucidly and eloquently put, and very true. Exactly in line with "Motor West's" policy of printing, in every issue, one or more illustrated articles setting forth the incomparable allurements of the vast area adjacent to and on the Pacific Coast.

To bring the desired end about more quickly, we must have better roads, with the present federal aid law's apportionments used as fully as possible and with, in addition, a truly national plan and appropriation, followed by construction of fine truck highways in the least practicable time.

How can this best be brought about? We believe that it is too gigantic a job for a few men. It must be done in co-operation by the people themselves, as was done in other important matters during the war. A bill is to be introduced in Congress providing for county, state and regional highway conferences, in that order, for the purpose of progressive co-ordination, elimination, specification and estimating; and for national co-ordination by a Secretary of a Department of Highways, with a commission of ten widely informed men under him, to be selected so as to give ten regional areas, as well as nine fundamental industrial and other factors, representation.

The plan provides for appropriation based upon ascertained needs. It impresses all who have studied it as being eminently practical in this respect.

The plan is particularly sane in that it provides that the people shall not give up to federal ownership practically entire state highway rights of way, totalling about 50,000 miles, plus main streets of cities now small but which will be large, plus authority to create business monopolies in such areas, plus quite possibly arrogant regulation of the business and personal life of 110,000,000 people.

The plan provides for the attainment of a nationally co-ordinated road system in the least time, with the people's money, by the people's employes with citizens' active preliminary co-operation, without the people becoming wards, as it were, of their public servants.

The plan to be presented to Congress will, we believe, result in the early construction of a national system of truck roads which will bring our national parks and the scenic assets of the entire country within easy reach of all its citizens and thus make easy the duty of every American to "See America First."

No Fear of Point of Saturation

RELATIVELY few say anything nowadays about the day of saturation of demand for automobiles being imminent. Yet there are some. In spite of them the demand in every state for passenger cars, and particularly for motor trucks, increases by large percentages yearly, and the percentages themselves increase over preceding ones.

Prohibition is among the factors which are enlarging the total of automobile users. Incidentally, bank deposits and investments in homes and businesses show increases which are logically traced to the same factor.

No single reason is responsible, however, except general

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progress, which includes all minor reasons. The greatest single factor of all will be better roads, and the plan which will get those better roads in the least time, by means of adequate Federal appropriation, following concentrated preliminary study by county, state and regional gatherings, is the one to be desired.

Free Camp Sites Good Investment

THE spread of the free-tourist-camp-site idea is indicated by the fact that in Southern California alone there are more than fifty such camps, maintained more or less lavishly by enterprising cities; mostly small cities because there are more small ones, and because the larger ones have not the same percentage of enterprise.

These camp sites are tokens or hospitality of the most practical sort. Their effect for or against a community, in the opinion of the wide world, is very considerable and is lasting. A good word or a bad word about a locality keeps a-rolling for years. Visualize this:

Sycamore Grove, on the Arroyo Seco and on the main boulevard between Pasadena and Los Angeles; scenic and historic environment all about; a camp site accommodating thirty-six parties (far too small a site, a larger one is being considered), each from a different state.

Happy is no name for the mental attitude of these visitors. The city is crowded. Rents are up. They are reveling in the real California, which is the outdoor California. They will carry away pleasant impressions which will earn many fat dividends upon the very small investment in the camp site. The principle is working out similarly wherever similar or larger investment is being made.

On Their Way to the Coast by Thousands

RAIN had fallen intermittently for several days. The moisture from the earth met the air currents from the snow-topped mountains, hence the nights and mornings were coolish.

"This is our winter weather," said the Pacific Coast host to his Eastern visitor. "Har! Har!" retorted the latter. "This isn't winter. This is the friskiest kind of fairyland I ever struck. When I left home a few days ago we were having rotten weather."

They're saying that by the thousands. West-bound trains are running in three sections, all crowded, the passengers being of several grades of prosperity in many lines of life.

Not Against National Highway System

S. BENSON, chairman of the Oregon state highway commission, who is taking a vacation at Long Beach, Cal., motoring through Southern California from there, is a man of high standing in his state. He adds his voice to those of leaders in the state of Washington, Idaho, Wyoming and Arizona, who have publicly announced their opposition to the Townsend bill; not that they are against a national highway system, but that they regard the price asked of the people, in the Townsend measure as one which the people should not pay—in vitally valuable land, including main streets of cities which will be large cities to be surrendered forever to become federal areas; in even more vital privileges, including the vesting of power in the proposed federal commission to grant monopolies in all lines of business in such areas.

The Scott bill, which meets every requirement covered in the Townsend bill, and which provides for alleviation of present federal aid injustice to western states as well, will soon be introduced in Congress. It is eminently practical and, by its plan of county, state and regional meetings of the people's own representatives, with state and federal highway advisors, aims to attain the desired system of motor truck roads, of national scope, in much less time and much more satisfactory manner, as to adequate appropriation, etc., than would be possible by the Townsend plan. The Scott bill reserves full land ownership and other privileges for the states. In brief, it provides for the expenditure of the people's money in the way they want it spent, by their paid federal employes, without making those employes guardians in control of the daily economic lives of 110,000,000 people.

Should Have Beeen Thought of Before

MANY a fact seems perfectly obvious, after one has it plainly put before him. None more so than that no motor vehicle law is complete without a provision for the periodical examination of automobile brakes. Laws to lessen headlight glare do not stop the nuisance very noticeably, and perhaps a law for official brake testing would not be enforced, but it should be.

Leon J. Pinkson, automobile editor of the San Francisco Chronicle—a fearless scribe who is strong for safety and who does not hesitate to mention names if it appears necessary—brings up the brake matter as the result of a coroner's jury recommendation for a city ordinance and incorporation of the same preventive feature in the state regulations.

The Trailer Train Is On Its Way

EVERYBODY knows—when it is called to his attention as a simile—that it is easier on everyone and everything concerned, including the trail or road, to drag or roll a long load than pound along with a short, heavy, high one. The American Indians knew that. The efficacy of sliding is known in spots all over the world, from the Madeira islands, where no snow falls but coasting down cobbled streets on sleds is pastime, to the baseball diamond of the U. S. A.

Idle persiflage aside, there is much horse sense in the user of motor trucks who knows enough to use trailers of the right kind—meaning the kind which do not jump around like the nervous end of an agitated alligator. The number of such users is increasing rapidly, according to trailer sellers; but it would be well if the increase were more noticeable on the highways.

Tractor News for Automobile Dealers

EVERY automobile dealer who believes in "branching out" should get the significance of the news that on August 1, 1920, the Fordson tractor will be sold, not through present channels, but through Ford dealers. The present method has not been found satisfactory.

In other words, it may be judged, the implement dealer is not as effective a salesman of tractors as the automobile dealer, who is trained in handling motor vehicles. What he don't know about the tractor as a farm implement he can learn more easily than the implement dealer can learn the motor facts he don't know.

Lemuel Loosehead says: "To keep a-goin' is a good rule. Yet 'n' still, on a night ride it's a heap sight better to break the rule than to break your neck."

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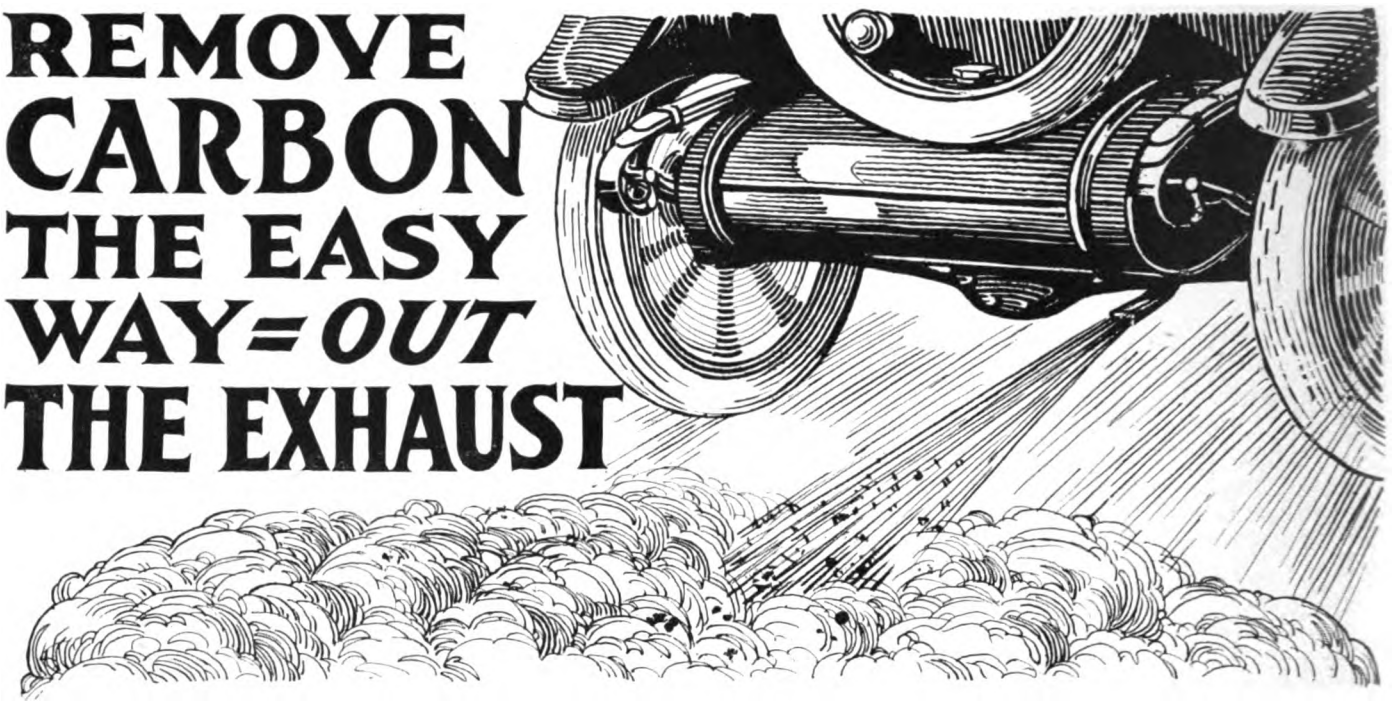
REMOVE CARBON THE EASY WAY=*OUT* THE EXHAUST



THE easiest, cleanest, safest and most satisfactory method of removing carbon deposits is with Johnson's Carbon Remover. It will save you from $3.00 to $5.00 over any other method without laying up your car. After one application your car will run like it did the first 500 miles—quietly and full of "pep"—and you will secure the maximum power and speed from the minimum amount of fuel.

JOHNSON'S CARBON REMOVER

A dose of Johnson's Carbon Remover, the engine laxative, will cure 80% of engine troubles. It will increase the power of your car—improve acceleration—stop that knock—quiet your motor—save your batteries—and cut down your repair bills.

Johnson's Carbon Remover is a perfectly harmless liquid to be poured or squirted into the cylinders. Millions of cans have been used. Recommended by many of the leading car manufacturers, including the Packard and Studebaker Companies.

JOHNSON'S
RADIATOR CEMENT

will stop leaks immediately without laying up the car—no mechanical experience required. It contains nothing which can clog or coat the cooling system and is absolutely harmless in every respect. It isn't a make-shift—it's a permanent repair. Will ordinarily seal leaks in from two to ten minutes.

JOHNSON'S
HASTEE PATCH

This is the ideal repair for tubes, casings and rubber goods of all kinds. No time, labor or heat required. A patch can be applied in three minutes and it's so simple a child can use it. Gives equally good results on a pin hole puncture or an a large blow-out. Conveniently put up in strips.

JOHNSON'S
BLACK-LAC

Here is a preparation with which you can make your gray, dusty top and side curtains look like new. Johnson's Black-Lac is unequalled for blackening fenders, rims, hoods, lamps—and in fact, all worn metal parts. Prevents rust and keeps your car in a high state of repair.

Write for our booklet on "Keeping Cars Young"—it's free

S. C. JOHNSON & SON, Dept. M. W. 12, Racine, Wis.

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A Cure for Labor Unrest?

Paul W. Litchfield, Goodyear Expert, Puts Logic and Experience in Book, "The Industrial Republic"

UNDERSTANDING the need that the minds and hearts of employers and employes should meet and co-operate, to produce the happiest, most prosperout results, Paul W. Litchfield, vice-president and factory manager of the Goodyear Tire & Rubber Co., has evolved methods, put them in practice with great success, and written a book about them entitled "The Industrial Republic."

It is a study in industrial economics, in which the social factor is recognized as an essential. The book has seven chapters: On the expansion of political democracy, the genesis and development of the labor-capital opposition, its present status, clues to the solution, duties involved when rights are obtained, the industrial republic idea and industrial citizenship.

In the expansion of political democracy, the focusing of attention on the faults of political government, the author truly says, has produced a similar focusing on the faults of industrial management. The alarming degree and manner of this in Europe is most interestingly traced. Its maximum development, bolshevism, the attempt to overthrow capitalism among Russia's 100,000,000 people, is termed an autocracy based upon the most cruel ignorance—a challenge which must be met and answered before peace can return to the world. On the other hand, Mr. Litchfield says, the success of our present form of government requires (economic) education for the greatest number possible. Intelligent democracy is automatically displaced anywhere, by more or less autocratic government in practice, if not in theory, where the character of citizenship is low. If it continues low, mechanical efficiency may rise as it did in Germany, the autocratic idea will lead to self-satisfaction, false ambition and greed, resulting in reversion to war.

The tracing back to fundamentals of opposition between labor and capital is simply, lucidly done. Capital was in the beginning, and is now, nothing more nor less than the savings of labor—an absolute essential factor in progress. Its destruction—i. e., elimination of savings—would mean universal starvation in all the good things of life. Its logical function is not to be increased solely for the benefit of its holder, at the expense of labor, but to be combined with labor to serve mankind. It is the difference between these two ideas, says the author, that is to a large extent at the bottom of the industrial unrest of today. The growth of the wage system, organization to get more wages, organization of capitalists to protect themselves, resulted in opposition of the two classes, and in some instances capitalists gained advantages, became mere capitalizers of others' labor; while wage earners, reasonably assured of steady income, ceased to save and so lost advantages. The gulf widening, strikes and disorder have come logically.

In the present status, it is urged that both capital and labor are investors in any enterprise, the one risking money, the other its ability to produce, and that, assuming that each party receives from the investment current interest and current wages, surplus should be divided in some proportion and not go to capital alone. With this incentive to produce more, labor will produce more and capital will not lose. Community of interest, leading toward co-operative control, is created.

This idea is given as one of the clues to solution of the present unrest—as a means to awakening a mutual sense of duty, corresponding to mutual privilege. The idea must be handled with care, in justice to invested capital, lest the structure crumble. On the other hand, capital must realize that human rights come first and property rights afterward. If employers will be humane and helpful to employes, and if employes will qualify in the essentials of capital investment—saving being the principal one—representation of both in management and division of surplus is ahead. Any other method of attaining such representation by labor is characterized as confiscation and injustice.

Using the right method leads to the industrial republic, in which qualification for participating citizenship should depend upon age, common language, experience in the industry; in which, preferably, the political caution of our forefathers should be followed by forcing policies to be approved by two legislative bodies as well as the executive body; and, always, that ordinary workers as well as leaders contribute to the common investment fund, as citizens politically contribute taxes to common government funds.

Hoggish capital, and hoggish labor, have no place in a sane industrial republic or enterprise. They handicap the majority. Successful industrial organization depends upon having in it a majority of citizens of the right type, who will use every mutual means of education, example and friendship. The minority can then be made harmless.

A method of parliamentary procedure in conducting a mutually controlled business is outlined.

The ideas in the book are in very successful operation in the Goodyear organization. The book is based upon that practical experience. It sets forth that the main cause of industrial unrest is the ill will of the laboring force; that capital has spent relatively too much effort to obtain the good will of the third factor in commerce, the customer, and too little to gain that of his own workers; that "the time has now arrived when encouragement must be given to the progressive evolution of industry from the state where labor hires itself out to capital, to the state where labor will manage the business and undertake the obligations which are necessary to insure those who have capital, that they may safely lend it to the organization of those who labor, for the mutual benefit of both."

It is estimated that 50,000 automobiles will be worn out in California this year.

Economy Tire Cover

means more sales

The Economy is so simple in operation—so reasonable in price—it makes friends easily. It is a consistent repeater and new customers are a daily incident. That is why they make more sales for you.

If your jobber has not shown you the Economy Tire Cover, send us his name today, and we will tell you more about the profit in them for you.

The Economy Tire Cover Co.
1319 Margo Street
Los Angeles, Calif.

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Trailers Help Sell Trucks

Make Latter More Economical by Saving Waiting Time, and Increase Hauling Capacity of Light Trucks

HAULAGE by highway presents a great many complications and problems, as every successful truck salesman well knows. True salesmanship calls for a broad knowledge of these problems and of highway transportation and traffic conditions. The salesman who talks and sells transportation will make a bigger and more permanent success than the one who cannot see further than the mere sale of the particular truck he represents. It is easier to interest a man in a method whereby he can save money in his hauling or delivering than it is to interest him in spending money to buy some particular truck instead of another. The former plan minimizes the outlay by comparison with the advantages and economy of the improved means, while the latter emphasizes the expenditure, invites comparison with prices of other makes of trucks, and is likely to involve the salesman in disparaging remarks about competing trucks and even in price cutting.

In selling transportation it is essential to know the advantages and limitations of each method and to have the moral courage to advise customers honestly in all matters relating to their particular problems. The truck dealer should be willing even to tell a prospect that he can do his work cheaper with horses or with an industrial railway than with motor trucks, if a study of conditions shows that to be the case. It will pay in the long run, although it may result in the loss of an immediate sale, because confidence and good will will be established and the man will be glad to tell his business acquaintances that they can depend on absolutely honest treatment from the dealer.

The truck dealer or salesman cannot have a thorough knowledge of highway transportation unless he knows considerable about the possibilities of the use and economy of trailers. Many dealers are not interested in trailers because they labor under the belief that the sale of a trailer will spoil the sale of a truck, which will mean a smaller commission or profit. This is not only a narrow view to take but, broadly, it is a false idea. The fact is that the public is bound to find out the best and most economical means of haulage, and if the truck dealer will not supply it, someone else will do so.

Leading truck manufacturers who have looked into the matter know that there are a great many cases where trailers and semi-trailers can be used by truck owners to great advantage, and the manufacturers build road tractors for hauling semi-trailers or recommend the use of four-wheel trailers with their regular trucks under favorable conditions.

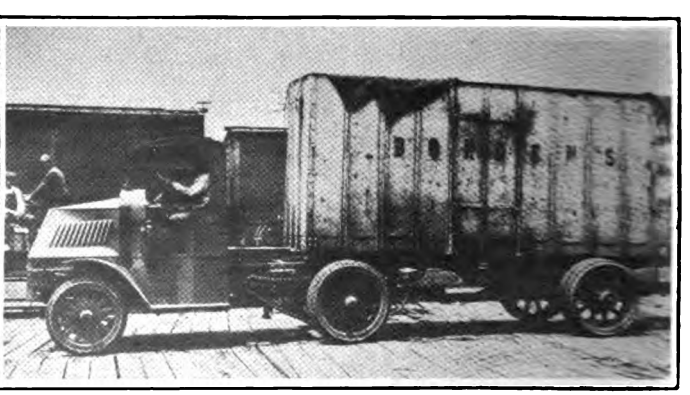
Very often, by showing a prospect what can be done in his business with a trailer or semi-trailer, the dealer or salesman can effect a double sale of a tractor and semi-trailer where it would be impossible to sell a motor truck alone. Or he can sell one or more four-wheel trailers or a pole trailer when the customer would not consider buying an additional truck.

A truck owner's haulage requirements may fluctuate considerably, but not enough to warrant buying another truck. So he is prone to overload the one he has and have trouble with it. A trailer would take care of the occasional overload at very small expense. Intercity and rural motor express companies will become large users of trailers because their business is much heavier at some seasons or periods than at others, and it would not pay them to buy enough additional trucks to handle the peak business only to let them stand idle at other times. By using trailers they will get and hold this extra business and grow to the point where more trucks will be needed.

In many trades the efficiency and economy of the motor truck are greatly diminished because of the time lost in loading and unloading, as in the lumber business, for example. It is often impossible to show that the use of motor trucks would be more economical than the use of horses in such cases. But when it is shown that by the use of trailers or semi-trailers, a truck or tractor can be kept on the road practically all the time, one trailer being left for loading while another is in transit, the customer will readily see that an important saving can be effected and a sale may be made of a truck and two trailers. Thus, the trailers really sell the truck.

Haulage contractors are often called upon to move boilers, tanks, derricks, long timbers, structural steel and other objects too bulky, too heavy or too long to be loaded on a motor truck. Heretofore such articles have been hauled with horses—sometimes with six to ten teams.

1½-TON KELLY TRUCK WITH 1½-TON TRAILMOBILE. EASILY HAULS 3 TONS OF BALED COTTON.



MACK TRACTOR AND 15-TON SEMI-TRAILER USED BY BORDEN CO. FOR HAULING MILK IN BULK.

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The new $15,000,000 STUDEBAKER Automobile Plant at South Bend

Capacity when finished-150,000 cars per annum

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This construction photograph, showing part of the new $15,000,000 Studebaker plant, was taken September 9, 1919. In the background is the new drop forge plant, now partially operating and almost completely equipped. In the foreground are the forms for the reinforced concrete work of the final assembly building. Other buildings, not within the range of the camera, have either been completed or are building. Since September 9th, construction work has progressed rapidly. Fifteen hundred workers are employed.

ABOUT four years ago, The Studebaker Corporation determined to build a large, modern automobile plant at South Bend, with a production capacity of five hundred cars per day. Construction engineers and production experts made exhaustive investigations and studies of the construction, equipment and methods of numerous modern plants throughout the United States, and incorporated in the plans for the South Bend plant every improvement and practical device for economical production developed by this investigation. While construction work was interrupted by the war, about 40% of the plant will be completed by January 1st; and by April 1st next, about 150 cars will be produced daily, with increases from that time onwards.

The new plant of steel and concrete construction is equipped with new machinery of the latest design—every known device for efficient and economical manufacture—and will be operated by a highly trained corps of engineers and production experts, unexcelled in the automobile industry. Commodious space

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and equipment is provided for the laboratories, experimental department and engineering department, where research experiments, improvements and new designs will be carried on daily by a large, able staff of engineers and chemists.

The new plants will produce all castings, forgings and stampings for Studebaker cars. The latest heat-treating and carbonizing equipment and machine shops are provided, with shops for open and closed bodies also included, together with a warehouse with storage capacity of 3,000 cars and ample railway and track facilities for shipping. A large recreation hall with theatre is provided for employees' and dealers' meetings. The new plant, when entirely completed, will cover eighty-five acres, cost $15,000,000, and be unexcelled in America in modernity and efficiency.

The Detroit plants of the corporation will be continued as heretofore, producing Studebaker cars in large quantities. The South Bend plant is an addition to the capacity of the corporation.

Studebaker

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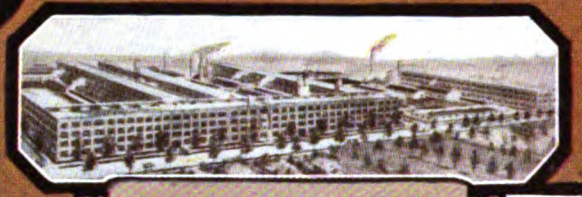
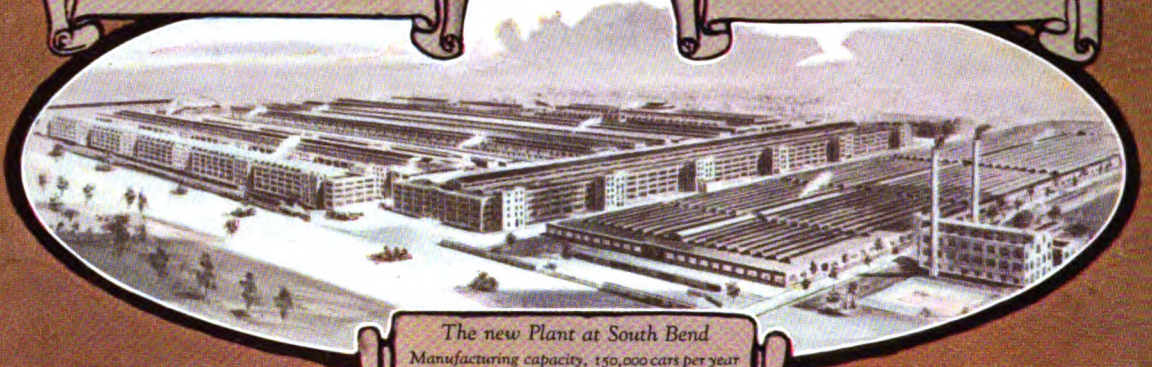
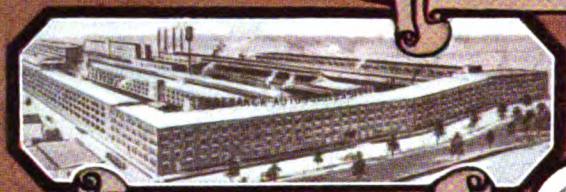


Plants No. 5 and No. 10, Detroit

Plants No. 1 and No. 2, South Bend



The new Plant at South Bend
Manufacturing capacity, 150,000 cars per year



Plants No. 3 and No. 4, Detroit

Plant No. 7, Walkerville, Canada

STUDEBAKER'S tremendous resources and plant facilities are amply illustrated above and give a true and exact reproduction of all its plants now in use and of the new plants as they will appear when completed. With such manufacturing resources, recognized engineering skill and production ability, Studebaker will, beginning with 1920, be better able to supply the ever-increasing demand for its automobiles, now grown to such an extent that "Studebaker cars are probably the most talked of in America today."

THE STUDEBAKER CORPORATION *of* AMERICA

Detroit, Mich. South Bend, Ind. Walkerville, Canada

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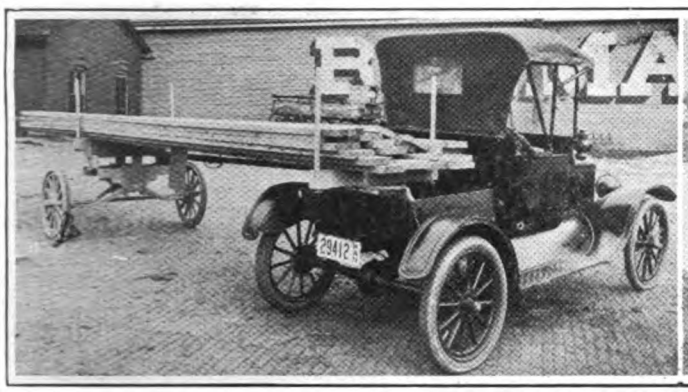
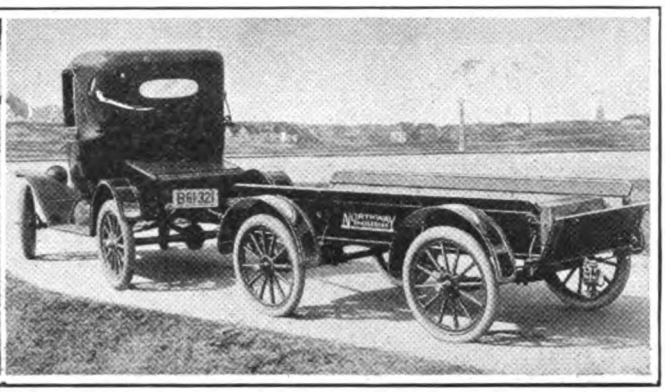


HERE IS A TWO-WHEEL 1500-POUND SEMI-TRAILER FOR USE WITH LIGHT CAR.



ONE-TON FOUR-WHEEL "HI-SPEED" TRAILER WITH PNEUMATICS, USED WITH LIGHT PASSENGER CAR.

and at great expense and trouble. The only way trucks can be sold for such work is in combination with trailers, and when it is shown how easily, quickly and cheaply trailers can do the jobs, the trailers sell the trucks.

A dealer who handles trucks of only one or two tons capacity finds the market for larger trucks closed to him and misses many sales of larger sizes. If he had a line of trailers and semi-trailers to offer he could close many such sales by showing how, with a semi-trailer, a one-ton truck can be converted into a three-ton unit or a two-ton machine into a five-ton vehicle, or how, with a pole trailer or a four-wheel trailer, the carrying capacity can be doubled and the ton-mile cost of haulage cut in half.

In many sections the roads are not suitable for the use of trucks of five tons capacity or more. This is true in most farming sections. Consequently, sales are restricted to the smaller sizes. When semi-trailers or trailers are used, the weight is distributed over six or eight wheels, so that four or five tons can be hauled over poor roads, or pay loads of twelve to fifteen tons transported, enabling the operator to get the benefit of reduced ton-mile cost.

On the other hand, if the dealer represents only a line of heavy trucks, he can show the owner of a five-ton machine how a trailer can be used with it to take care of small additional loads. The trailer with its load can be left at an intermediate point on the route to be unloaded, while the truck goes on to the end of its route, picking up the trailer on the return trip.

There is a large field for the sale of light two-wheel and four-wheel trailers among farmers and others for use with runabouts and touring cars. This cannot interfere with the sale of either passenger cars or trucks, as those who would buy such trailers do not have sufficient hauling to warrant the purchase of even a one-ton truck. The profit on the sale of the trailer is just so much additional income to the dealer.

The demand for trailers is increasing and it is not uncommon for a prospective trailer purchaser to inquire for a make of truck that can be used successfully with trailers. He is most likely to buy that make whose manufacturer and dealer are willing to give assurance that it has power enough and is built strong enough to pull a trailer over ordinary roads and grades without injury to itself. The fact that the dealer in any make of truck also handles trailers will be sufficient assurance to most purchasers that he does not hesitate to recommend his trucks for use with trailers.

Once sold, trailers are no further bother to the dealer. There is no service to be rendered, no free adjustments to make, etc. Some instruction should be given in how to operate a truck with trailer, but aside from that the dealer is under no expense for trailer service.

Truck and automobile dealers are the logical persons to handle trailers. They have a clientele of owners, know the business houses in their communities and their haulage requirements, and should find the selling of trailers a comparatively easy matter. The taking on of a line of trailers will give them a good opportunity of re-opening the whole subject of motor equipment, with a possibility of selling additional trucks as well as trailers.

The use of trailers is so varied and the possibilities of saving in hauling cost so great that an interested audience is almost certain to be obtained from every prospect approached.

Dealers are having great difficulty everywhere in securing deliveries of passenger cars to fill orders, and in many places cannot supply trucks to meet the demand. They can help truck owners with their hauling troubles during this shortage by offering them the means to do double the volume of work with their present equipment until such time as truck manufacturers can catch up with the demand. At the same time the sales of trailers will to some extent make up the loss of revenue to the dealer through his inability to deliver trucks and automobiles and get his commission on their sale. The trailer is no more a competitor of the truck than a light truck is a competitor of the heavy one. On the contrary, it is supplementary to it and increases its efficiency and economy, creating sales possibilities where they have not existed before.

Truck Terminal for Ten Rural Express Companies

Volume of business has increased to such an extent that the Minneapolis Central Ship-by-Truck terminal, established to help in solving the return-loads problem, has doubled its floor space after little more than one month's operation.

Located in the heart of the wholesale district, the terminal is affording a central depot to ten motor express companies, whose routes radiate in all directions from Minneapolis, within a radius of 100 miles.

The trucks are carrying into the city vast quantities of cream, butter, eggs and potatoes—part of it the gleanings of the farms, which without the motor express service probably would go to waste or to the feeding of hogs—and are taking back to the farmer his requirements in furniture, farm machinery, groceries and other necessities of life. The terminal is the central station from which incoming loads are distributed throughout the city, and at which outgoing loads are assembled.

The company operating the terminal, which is incorporated for $100,000, is at present making a flat rate of 5 cents per hundred-weight for its service, which includes obtaining new business for truck line operators, making collections and taking care of bookkeeping. Drivers are instructed to take orders from rural merchants for anything needed from wholesalers. These orders are turned in to the terminal company, and by it sent to the wholesale houses. Operators say that the small charge made by the terminal company represents a large saving to them over what it would cost them to run their heavy trucks over the city in making pick-ups.

ONE MILLION TRUCKS IN U. S. JANUARY 1 NEXT.

It is estimated that 1,200,000,000 tons of goods are hauled yearly by motor trucks. Every truck displaces five horses. The cost of maintaining and operating a wagon and team of horses is 33 cents per ton-mile. The cost per motor truck ton is 15 cents.

There are 800,000 motor trucks in the United States today and, according to statistics compiled by the "Motorize the Farm" bureau of the Goodyear Tire & Rubber Co., Akron, O., there will be 1,000,000 on January 1st, 1920, although there are fewer than 100,000 trucks in use on the 6,000,000 farms in the country.

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Un-retouched photograph showing a motor truck completely equipped with Goodyear Cord Pneumatic Truck Tires, which is employed in hauling road construction materials by A. H. Telder, at Grand Rapids, Michigan

GOODYEAR

MADE IN U.S.A.

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His Pneumatics Plow Through When Solid Tires Must Wait

"I WILL never go back to solid tires. The smooth riding on the Goodyear Cord Pneumatic Truck Tires saves engine and truck. With them, I can be on the job making money while men with solid-tired trucks are laid up on account of bad roads. They enable me to pull a double truck-and-trailer load at about the same cost as a solid-tired truck only. They go through red clay to the hubs. They are saving gasoline and repair bills."
—A. H. Telder, Cartage Contractor, Grand Rapids, Michigan

Of all the motor trucks engaged on the same route in Grand Rapids, only Mr. A. H. Telder's pneumatic-tired truck can constantly negotiate the hills and red clay.

Mr. Telder's truck, on Goodyear Cord Pneumatic Truck Tires, is the only one of these units that can haul its capacity plus a loaded trailer over this difficult going.

So, this busy cartage contractor has decidedly important reasons for stating that he will never go back to solid tires.

The big-calibre Goodyear Cords have enabled him to transport in this way twice the amount of road construction materials each day.

They have saved fuel, and, by smoothing what is a grinding, jarring job on solid tires, they have minimized truck strain.

Bad weather, increasing the slipperiness on the hills and in the clay, has repeatedly tied up solid tired trucks.

But, with mud up to the hubs, the unit on the Goodyear Cord Pneumatics has kept right on earning money.

And stretches of sharp rock and gravel thus far have failed to impair the rugged appearance of these tires.

After covering 100 to 120 miles daily during a considerable period of this severe service, the blocks of their All-Weather Treads are still thick and largely unmarked.

These results reflect that pioneering work with which Goodyear has developed Goodyear Cord Pneumatic Truck Tires for a very wide range of motor truck duty.

THE GOODYEAR TIRE & RUBBER COMPANY
Offices Throughout the World

CORD TIRES

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Stewart MOTOR TRUCKS

The low operating and upkeep expense of stewart trucks has established for them a remarkable economy record in over 600 American cities, on hundreds of farms and in 27 foreign countries.

Hundreds of firms own fleets of Stewarts—Dexter's Bakery, Springfield, Mass., bought their first in 1916 and now own 27; H. J. Ball of Milwaukee, bought his first in June, 1917, and now owns 22; Rothenberg & Co., one of New York's largest department stores, purchased a Stewart in November, 1918, and now operate 16.

Perfected Stewart design has eliminated hundreds of needless parts, reducing the weight of the truck and making it stronger, more simple and considerably lower than the average on gasoline, oil and tire consumption. And you save $200 to $300 in first cost.

Visit the Stewart Exhibit at the New York and Chicago Truck Shows. New York show January 3d to 10th; Chicago show January 24th to 31st.

Fleet of Stewart Trucks owned by Rothenberg & Co., New York City.

QUALITY TRUCKS Stewart QUANTITY PRICES

Stewart Motor Corporation

BUFFALO

Quality Trucks since 1912

5 sizes:

¾-Ton Chassis	$1195
1 -Ton Chassis	$1650
1½-Ton Chassis	$1975
2 -Ton Chassis	$2575
3½-Ton Chassis	$3500

f. o. b. Buffalo

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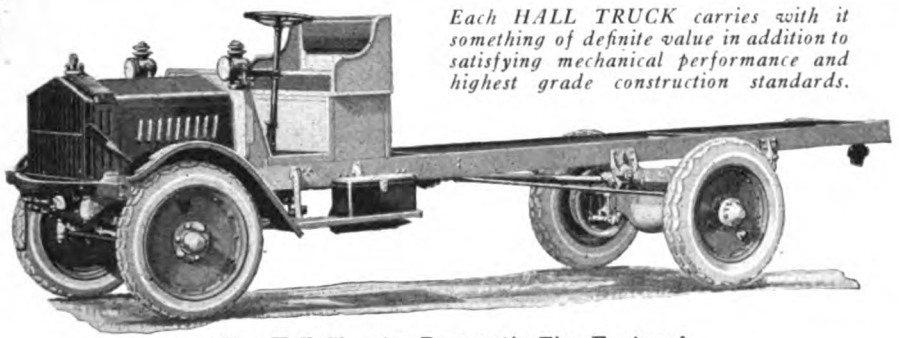
HAUL IT IN A HALL

ORPHANED TRUCK INSURANCE



Each HALL TRUCK carries with it something of definite value in addition to satisfying mechanical performance and highest grade construction standards.

2-Ton Hall Chassis—Pneumatic Tire Equipped.

THAT something is—46 years of unbroken manufacturing responsibility, out of which has grown recognized commercial dependability, meaning vastly more to *Hall Truck Owners and Hall Truck Dealers* than surface appearances indicate.

Step by step, throughout all those 46 years, the makers of *Hall Trucks* have been carefully, systematically building institutional Good Will—developing a Trade Reputation, which is now so valuable it is zealously guarded.

Naturally *Hall Trucks* exemplify that Good Will and Trade Reputation to the advantage of both *Hall Truck Owners and Hall Truck Dealers.*

And this half century of uninterrupted manufacturing effort is a safe sign—practical assurance of continuous *Hall Truck* production and *Hall Service*—real insurance to owner and dealer against the costly orphaned truck experience.

Then, any *Hall* owner will tell you that a better truck than the *Hall* has never been built.

We have some splendid open territory and our selling franchise covers a complete truck line of 4 chassis models and any type of body. We will consider it a privilege to explain our dealer proposition to you. Address Sales Manager, No. 15 Roby St., Detroit, Mich.

As Manufactured by
The LEWIS-HALL IRON WORKS
DETROIT, MICHIGAN.

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Out of the Crucible of War Needs Pours Approval of the

Wilson dependable MOTOR TRUCKS

EIGHTEEN months before the massed engineering brains of the automotive industry evolved the Class B Army motor truck, acknowledged to be the world's best truck; Wilson engineers designed and placed in production the 3½ and 5 ton Wilson.

After the Class B truck was manufactured it was found that in 22 distinct instances Wilson engineers and the War Department engineering force agreed in essentials, which demonstrates the pleasing fact that the Wilson design anticipated the trend of the best engineering practice, by a year and a half.

The points of similarity are briefly summarized below:

Motor, Axles** (worm drive), **Transmission, Radiator, Brakes, Load Distribution, Wheel Base, Frame, Clutch, Drive and Propeller Shafts, Springs, Spring Clips, Steering, Control, Hotchkiss Drive, Artillery Type Wheels, Dash, Fenders, Seat, Gasoline Feed, and other minor points.

Folder showing in detail these various features will be sent on request.

In addition to this compliment paid by the leading automotive engineers of America to Wilson design, by concurring in practically every major thought of Wilson engineers, the actual experience of Army officers with Wilson trucks makes interesting reading. We have prepared a little booklet showing what the Army actually thought of the Wilson trucks in the service of Uncle Sam and a copy is free for the asking.

YOU know the Wilson truck is a good one.

NOW is the time to find out if you can get the selling franchise in your territory.

Wire or write the factory today.

1½—2—3½ and 5 Ton Models—All Worm Drive

J. C. WILSON COMPANY, Detroit, U. S. A.

Western Sales Mgr., HARRY F. HEARD, 1806 W. Adams St., Los Angeles, Cal.

36th Year

COMMERCIAL VEHICLE MANUFACTURERS

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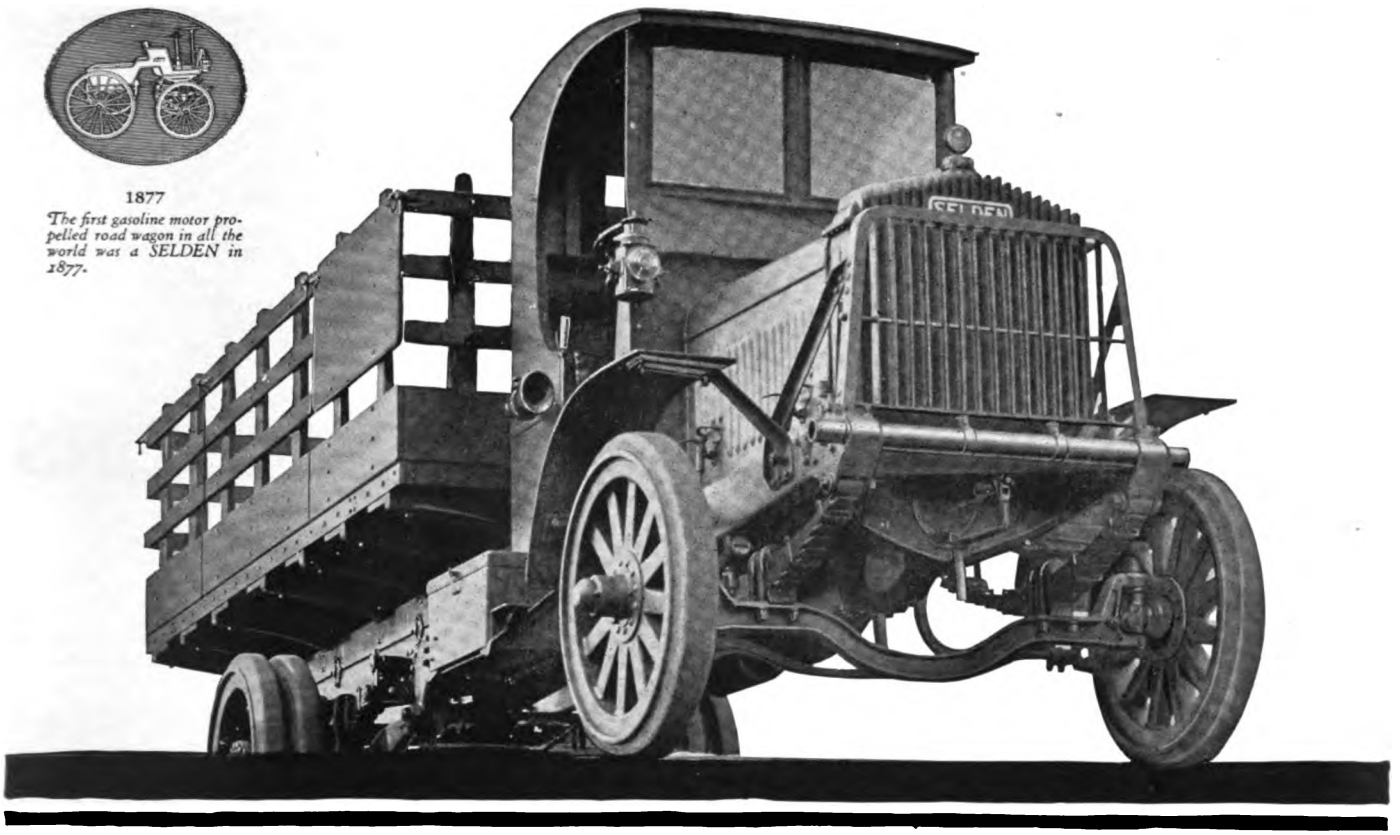
1877

The first gasoline motor propelled road wagon in all the world was a SELDEN in 1877.



"We Will Sell All You Can Give Us"

"Send along others as fast as possible." "The new and splendid method of flexible frame construction and absence of rivets provide abundant protection against brutal usage." "You have given us so many talking points of real merit that I don't see how any Selden salesman can help but win sales in competition with any truck in the world." "The more I see of the new Selden model the more enthusiastic I become." "I am writing all my dealer friends and telling them to hurry and get into the Selden organization if they can." "We will show our appreciation of the new Selden model by sending you a deluge of orders."

These expressions of appreciation of the new 3½ Ton Selden Model are selected at random from the deluge of letters and telegrams which we have received from Selden dealers in all parts of the country.

Months ago when the Selden Special (1½ Ton Model) met with the complete and instantaneous acceptance which it did, we did not believe it possible for a motor truck to be more enthusiastically received.

But the new 3½ Ton Selden Model has been accepted by Selden dealers and delighted owners with greater enthusiasm than even the "Selden Special." It is an assured success. Selden dealers are already profiting by enormous sales in their territory.

DEALERS: If Selden Trucks are not at present being sold in your territory, write or wire us for our sales proposition.

1½, 2, 3½, 5 Ton Models—All WORM Drive

SELDEN TRUCK CORPORATION, Rochester, N. Y., U. S. A.

Selden Motor Trucks

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New Garford 3½-Ton Model

Will Not Supplant Present 3½-Ton Job, Thus Giving Purchaser Choice of Long or Short Wheelbase.

GARFORD comes to the fore this month with another new model, this time a 3½-ton job. It differs from the former 3½-ton model in that the motor is placed forward instead of under the seat, but is not intended to supplant the former model. Both will be available, thus affording two 3½-ton models from which to select—the one being of the conventional long wheel-base type, the other being of the original Garford design with extremely short wheel-base.

The chassis of this 3½-ton model is new design from the ground up. The 4½x6 engine is of the very latest type and featured with a detachable head, cylinders cast in block, crankcase extended to include the flywheel housing and oil base of the two-piece construction, permitting of easy removal. The valves are on the right side of the cylinders, which are of the "L" head type. A special feature in connection with the pistons is the snap ring provided for preventing any movement of the piston pin. The piston pin set screw also is of the latest design, insuring a positive means of preventing scored cylinders.

The oiling system is of the force-feed type. A large gear type oil pump delivers oil under pressure to all bearings. The overflow from the pressure relief delivers oil to the timing gears. Before admission to the oil pump, the oil must pass through fine brass gauze. As far as possible the oil is delivered through steel tubes, thereby running no chance of its escaping through porous castings.

The attachment of the electric generator and electric starter, when these instruments are required, is effected by bolting directly to the crankcase. The clutch is enclosed in a housing which matches the flywheel housing, thereby making it clean and durable.

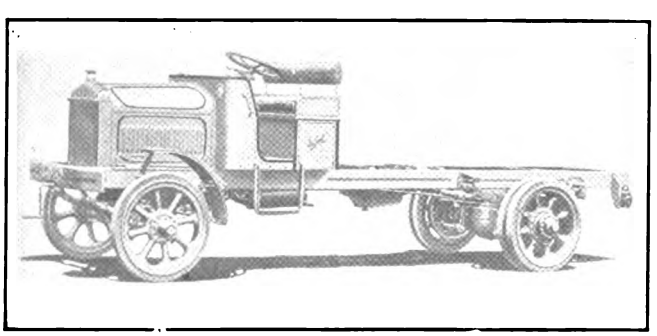
The transmission is of the four-speed, selective sliding gear type, all gears and shafts being made of alloy steel, heat treated. The gear reductions provided are as follows: First speed, 4.84; second speed, 2.82; third speed, 1.76; fourth speed, 1 to 1. The transmission is so made that a power drive attachment may be applied to it at slight additional cost.

The Timken rear axle is of the worm-drive type, having a removable worm gear. The bearing equipment of this unit is much heavier than in previous models. The axle is of the full floating type, each wheel being supported on two bearings on tubular extension from the axle housing. The driving wheel brakes are of the double internal type, no external brakes being required. Size 21x3¼ is more than adequate for a truck of this capacity.

Ignition is effected by means of a high-tension magneto. The elimination of a secondary source of current greatly simplifies the wiring. The carburetor is of the automatic feed type, plain tube construction. The engine is provided with the latest improved mechanical governor, geared for a speed of 14 miles an hour.

The front springs are 42x3 inches and the rear springs 56x3½ inches. These are entirely of alloy steel. The gasoline tank, of the cylindrical type, is of 25 gallons capacity and is mounted from the seat box. The gasoline feed to the carburetor is by gravity.

This new 3½-ton Garford chassis is listed at $3990, f. o. b. Lima, Ohio.



NEW LONG-WHEELBASE 3½-TON GARFORD TRUCK.

Determining Rates for Shipment by Truck

In line with the rapid growth of truck freight routes the Clyde Cars Co., Clyde, Ohio, is tabulating information upon which to base the freight rates of this new system of transportation. As a basis they find out the existing rail freight and express rates and the time taken by these companies for delivery. They must also determine the number of times that each shipment is handled by one of these older methods. The truck rate finally decided upon must be lower than these rates, yet high enough to insure a reasonable profit.

Many factors enter into the computation from this point on. These include the class of goods hauled, the speed of the truck, road grades, condition of the roads, most economical rate of speed for the truck, depreciation, interest, etc. Another vexing question is the fixing of a charge per 100 pounds when the full capacity of the truck is not utilized.

Working along these lines the company has learned many interesting things. In some communities goods can be hauled by truck at a much cheaper rate than by rail. In others the costs are about even, yet on the surface the same conditions appear to hold true in one case that do in the other.

Enormous Increase in Motor Truck Production

Increase of the motor truck business has been enormous. Where the business of manufacturing motor trucks was over 75 per cent off last January, it is now more than 75 per cent in advance of the best months known to many of the motor truck makers. Roy S. Davey, general sales manager of the Bethlehem Motors Corporation, Allentown, Pa., is authority for the statement that the business of the Bethlehem Motors Corporation during October was 89 per cent above the business of any month since last February, when things began to pick up after the winter slump. This is a fair example of gains made throughout the entire field of motor truck manufacturing. The building up of great motor truck fleets in all parts of the country on rural express routes, the increase in building operations everywhere to meet the requirements of the times, both as rgards business blocks, hotels and houses, and a general increase in every line of business requiring motor trucks, resulted in demands upon the truck makers on a scale never known before.

Dodge Sales Manager Denby Motor Truck Co.

Important among trade announcements is the appointment of Capt. Percival Dodge, sales manager of the Denby Motor Truck Co., of Detroit, a position for which Garvin Denby, president has groomed him for five years. Dodge entered the plant wearing overalls, worked at the bench, passed to assembly and inspection, experimental manufacturing, and went on the road, becoming district manager for Michigan. Followed a term in the accounting department, then the war, during which he served as pilot at various flying fields in this country and six months in France. Upon his return he became assistant treasurer, afterwards assistant sales manager, and now is in charge of all domestic sales. Dodge has won his spurs in every step through enthusiasm and energy and in Denby circles his promotion is welcomed as a deserved reward.

Wolverine Changed to Scott

Following the taking over of interests of A. H. Collins in the Wolverine Motor Car Co., of Kalamazoo, Mich., of which he was formerly president, the company's name has been changed to the Scott Motor Car Co. The directing mind behind the reorganization is Harry Scott, who has adequate financial backing.

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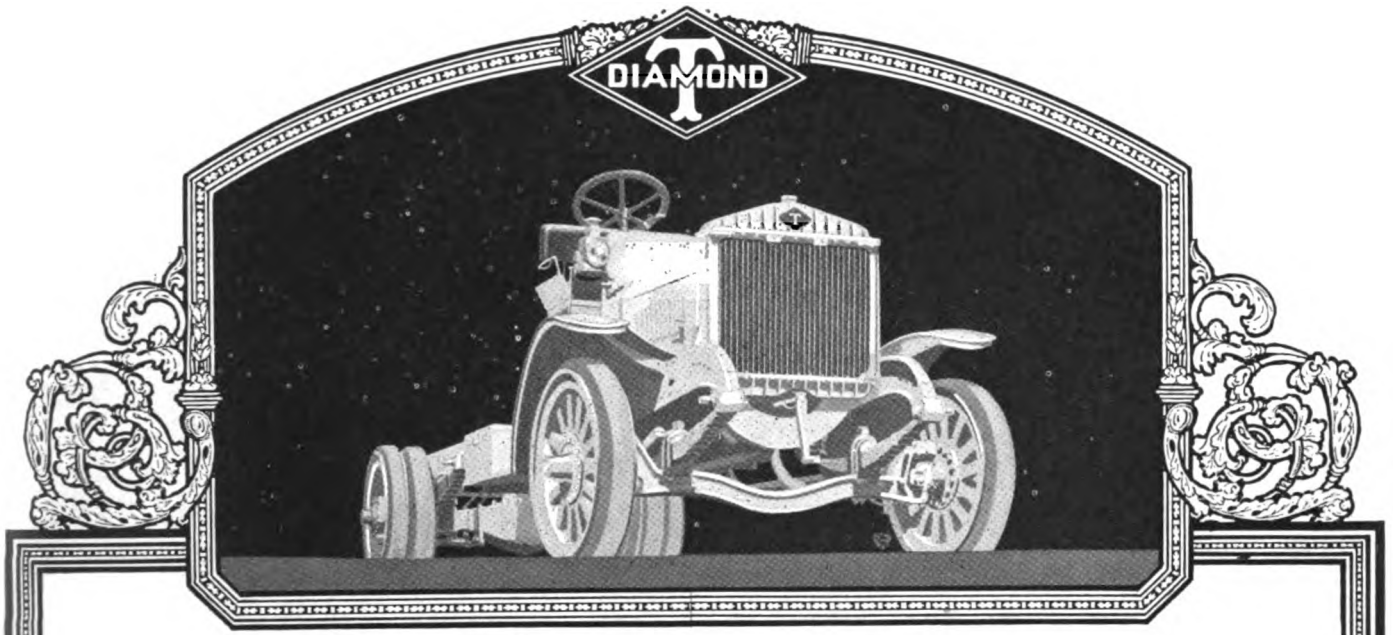

DIAMOND T

"The Nation's Freight Car"

Trucks on the road reduce the load
The railroads stagger under,
Their help is sought and trucks are bought
By those who've made a blunder.—E. E. F.

Railroads Are Asking for Help

ACCORDING to the announcement made public recently by the Director General of the United States Railroad Administration, the outlook, as far as the nation's transportation facilities are concerned, is not very encouraging. The railroad administration admits that a serious shortage of freight cars is inevitable and that—

> *"An unusually heavy grain and coal movement, deferred repair and the construction of public highways in all sections of the country, and the concentrated requirements of suddenly reviving business, combined with the usual transportation requirements at this time of the year, threaten a serious lack of transportation facilities, unless all parties interested co-operate in securing the greatest possible utility from the existing limited transportation facilities."*

The Director General urges all shippers and receivers of freight to redouble their efforts to promote freight-car efficiency. He asks the shipper to assist in this work by loading all cars to capacity; by prompt loading and release to the carrier; by ordering cars only when actually required; and by eliminating the use of railway equipment in trap or transfer service when tonnage can be handled by ***motor truck*** or wagon.

This appeal by the Railroad Administration to the nation's shippers should be welcomed by the motor truck dealer. It shows conclusively that the railroad is not capable of handling the transportation problems of this country without the co-operation of all having to do with shipping of the country's commodities. The motor truck dealer should feel encouraged by this statement of the railroads' executive, which shows that the railroads admit that short haul and transfer work legitimately belong to the motor truck. A great many shippers, however, have still to be educated to the innumerable advantages of this form of transportation. The statements made by the head of the Railroad Administration should be an incentive to the dealer to intensify his selling efforts.

—and they are getting it from "The Nation's Freight Car!"

A complete line from 1½ to 5 tons—**perfected** Hotchkiss drive with patented spring anchorage; trouble-proof, heavy-duty, worm-drive axle; special motor suspension (pat. applied for); rugged frame; universally proved serviceability. First Diamond T now in its ninth year!

These Distributors are behind Western Sales and Service:

Vernon A. Smith Motor Co.,
Distributors for the State of Washington
511-513 East Pike Street, Seattle, Wash.

Diamond T Truck Sales Agency of Oregon, Inc.,
Distributors for the State of Oregon
89-91 North Ninth St., Portland, Oregon

Hirsch Motor Company,
Distributors for Upper California
1131 Van Ness Ave., San Francisco, Cal.

The Walter H. Bissell Co.,
Distributors for Lower California and Arizona
1220 S. Grand Avenue, Los Angeles, Cal.

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Acason THE OWNER FIRST TRUCKS

"A PRODUCT IS USUALLY WITHOUT HONOR IN ITS 'HOME TOWN' "

400 ACASON MOTOR TRUCKS OPERATE IN DETROIT

The Home of the Motor Wise

Serviced and Sold in Principal Cities

1 to 10 Ton Capacities—Some Territory is Still Open

Dan Gilkey, Pacific Coast Manager
Care of Acason Sales Co., 39 Van Ness Ave.,
San Francisco, Cal.

C. A. Baer, Asst. Pacific Coast Manager
Care of Northwest Auto Company,
Portland, Oregon

Acason Trucks will be exhibited at the New York Commercial Car Show at the 8th Coast Artillery Armory, January 3rd to 10th inclusive. Space O-1.

Our exhibit at the Chicago show, January 24 to 31st inclusive will be at Space G-7.

ACASON MOTOR TRUCK COMPANY

Exclusively Truck Builders

DETROIT, MICHIGAN

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Standard
DETROIT USA

GRADE!

Not—How Many MADE

IDEALS of the Old School, made not so much for the Building—as they made for STAYING BUILT. STANDARD Motor Trucks are built by Men of the Old School, who were numbered among the leading Carriage Builders of yesterday.

Times have changed—needs and methods have multiplied. But the Ideals and Men who Build the STANDARD Motor Trucks Remain the same. QUALITY—is inbuilt in STANDARD Motor Trucks, just the same as PRIDE is inborn in the Builders.

Each STANDARD Motor Truck that you see has been built with the Pride that goes with Building—to STAY BUILT.

To Build STANDARD Motor Trucks BETTER—rather than to build them More, has been the fundamental operating policy of the Standard Motor Truck Company for nearly ten years of highly successful Motor Truck Building.

Ton for Ton—STANDARD Motor Trucks are as good as any Motor Trucks you can buy.

Incorporating Standard Units such as:

TIMKEN-DETROIT Axles and Bearings
CONTINENTAL Motor — EISEMANN Magneto
SPICER Universal Joints — LONG Radiator
GEMMER Steering Gear — PERFECTION Springs
BROWN-LIPE Clutch and Transmission

1, 2, 3½ and 5-Ton Capacities with a body style for every business

Increased manufacturing facilities will provide STANDARDS for a limited number of new Distributors.
Write for further information.

STANDARD MOTOR TRUCK COMPANY—DETROIT, MICH.

UNRETOUCHED

Standard
DETROIT USA
MOTOR TRUCKS

Exhibited 20th Annual National Automobile shows:
NEW YORK, January 2-10.
SPACE P—1
CHICAGO, January 34-31
SPACE F—3

"All the name implies"

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Three Influences Made for Transportation Efficiency

An analysis of the future of the motor truck, recently completed under the auspices of the Clyde Cars Co., Clyde, Ohio, shows that there are three influences at work which will tend to further the rapid growth of motor truck transportation. These are, first, the inauguration of return-loads bureaus in all of the large centers of populations; second, the store-door delivery system; and, third, the operation of trucks upon a prearranged schedule.

Many trucks are driven into the city loaded with farm produce. This load is discharged. The driver fills the few commissions which the truck owner has given him before leaving, and begins the return trip with his expensive transportation unit absolutely empty. The return-load bureau prevents this waste.

By means of store-door deliveries the railroad terminals are kept clear, freight congestion is reduced, and the consignee is relieved of all worry concerning the delivery of his shipments. It has been stated that the average freight train spends 12 hours in the terminal for every hour it is on the road. Store-door delivery releases these cars, and the benefit is traceable through all of the ramifications of the modern transportation system.

The operating of trucks on schedule provides, in effect, a motorized railroad. Sixty-five per cent as much freight is handled between some Eastern cities by motor truck as is hauled by rail. One particular 40-mile route relieves the railroad of the demand for 800 freight cars per week. It is estimated that there will soon be 600 motor express lines in operation throughout the whole of the United States. This statement gives a small idea of the potentialities which lie ahead of the motor truck.

Selden Elects New Officers and Directors

At the annual meeting of the stockholders of the Selden Truck Corporation held at the general offices of the company in Rochester, N. Y., the following officers were elected: Geo. C. Gordon, president; Wm. C. Barry, vice-president; R. H. Salmone, vice-president; Hal T. Boulden, vice-president, and W. F. Reynolds who is located in London, England was also elected to the office of vice-president, looking after Selden interests in foreign countries. Chas. S. Stearns, of Rochester who has been a director, will continue, as will R. H. Bollard, who recently was added to the directorate as a representative of the New York financial interests. Other officers elected were E. B. Osborn, treasurer; S. P. Could, secretary, and F. J. Kolb, assistant treasurer.

The reports submitted indicated a healthy condition of the company and plans were approved for the enlarging of the plant to take care of the increased business. This was the first meeting held of the combined Selden companies, and now that the details of the merger have been completed, the Selden Truck Corporation will at once take over the manufacturing of Selden trucks, formerly carried on by the Selden Motor Vehicle Co., which company by reason of these changes will in time lose its identity in the motor truck field.

Tower Adds New Truck

The Tower Motor Truck Co., of Greenville, Mich., announces that on Dec. 1 a new one and a half-ton truck model will be added to its line. Pneumatic cord tires will be standard equipment on the new truck.

MOTOR TRUCK BETTERS PUBLIC HEALTH.

A prominent doctor has declared that the increasing number of motor trucks and the decreasing number of horses on the streets today not only makes a city 50 per cent cleaner, but is a big aid to the public health.

Imagine what the big thoroughfares and avenues in the metropolitan cities would look like if all automobiles and motor trucks were removed and the same number of horse-drawn vehicles replaced them. Imagine the dirt, dust and the confusion, loss of time, not to mention the limited capacity of the horse-drawn vehicles as compared with the commercial cars.

In fact, in a great many cities in the country the increase in gasoline propelled vehicles has been so great that the horse-drawn kind has become almost a thing of the past, except for horseback riding in parks and at country clubs.—George A. Kissel.

Overloading Truck a Serious Mistake

Motor truck owners and drivers in helping to relieve the railroads of short hauls by employing trucks for freighting purposes are apt to overload them in their enthusiasm and desire to haul as many tons per load as possible.

Overloading affects frame, springs, wheels, axles, tires, power plant and even the driving mechanism—and while the truck is designed with a certain factor of safety, this factor was intended merely for emergencies, and not for continuous and continual abuse.

Overloading means motor truck suicide. The first bad effect on the motor truck from overloading is that the springs are forced down to a flattened position. This practice, if kept up, reduces their flexibility, resulting in the springs becoming inactive.

Greater tire wear is another result of overloading. The heavier the load, the harder the tires are forced against the road or pavement, causing greater friction and wear. Truck tires are guaranteed for so many miles. The tire manufacturers base their guaranteed mileage on the fixed weight a certain-size tire is built to carry. Thus a tire that is carrying an overload cannot possess the mileage of the tire which is carrying the rated load.

Setting Ourselves Right

In its September 15 issue "Motor West" published an article containing a formula for rating horsepower compiled by Prof. J. B. Davidson and Prof. L. J. Fletcher, of the University of California. A typographical error befell, so that instead of reading as:

$$\frac{2 \times 3.1416 \, G \, A \, N;}{33{,}000}$$

the formula appeared incorrectly as:

$$\frac{2 - G \, A \, N}{33{,}000}$$

The Greek letter called "pi" is often used as the mathematical sign for the constant 3.1416; to some modern day printers it will appear as merely a typographical error.

Reynolds Truck Gets Under Way

The Reynolds Motor Truck Co., of Mt. Clemens, Mich., has started operations in the first of its new buildings, having 15,000 square feet of floor space. In early spring another building occupying 4½ acres of land will be erected. The Reynolds trucks will be produced in 1½, 2½, 3½ and 5-ton models. Each chassis will be complete in every detail, including cab, windshield, electric lights and electric starter. Any fuel may be used in the engine, kerosene giving more miles to the gallon with all its ordinary objections eliminated. Louis F. Wolf heads the company as president; Andrew A. Lehr, vice-president and general manager; Charles E. Curtis, secretary-treasurer; and Charles E. Stone, vice-president and director of sales and advertising.

Service Truck Co. Commences New Unit

Increased demand for Service trucks has necessitated still further additions to the large factories of the Service Motor Truck Co., Wabash, Ind., and work has recently been started on what will be known as the E unit, 75x775 feet. The other units of the factories are the same size, and this building, together with the new administration building which has just been completed, the factory's garage and cafeteria, will give the Service Co. a total floor space of about eight acres.

Franklin to Build Air-Cooled Truck

The Franklin Mfg. Co., of Syracuse, N. Y., is to manufacture a one-ton truck in a plant separate and distinct from its present passenger car plants. Production begins within a year, according to present plans. The truck's engine will follow the well known Franklin air-cooled practice and the truck will be equipped with pneumatic tires.

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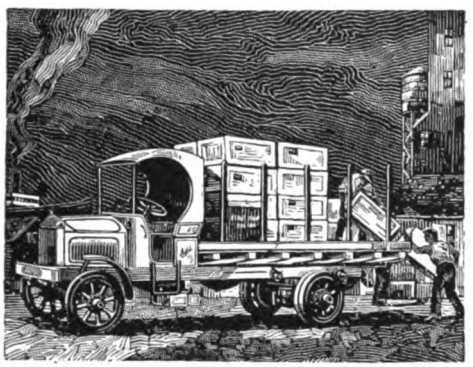
GARFORD



-for Low Cost Ton-Mile

Garford

The Garford Motor Truck Co., Lima, Ohio

TRUCKS

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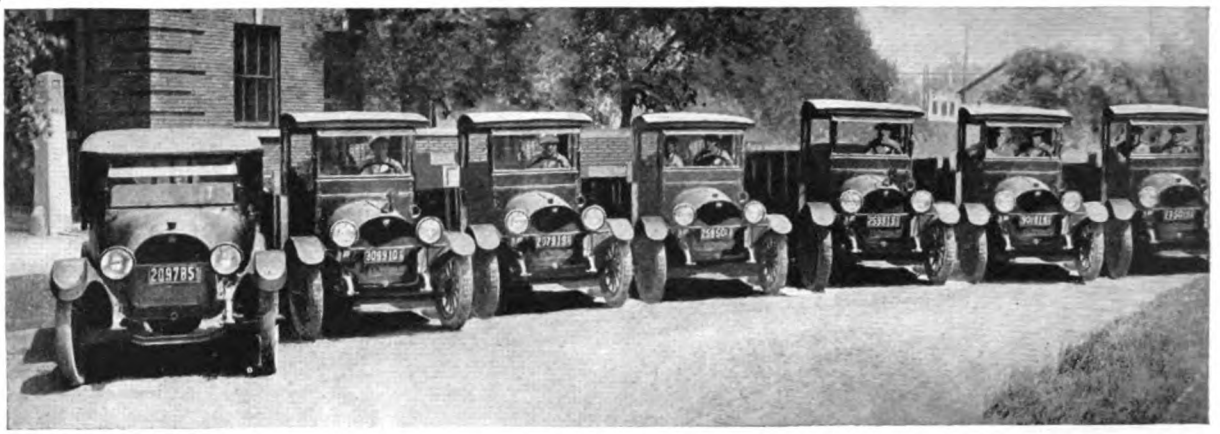
REO



TELEPHONE 4000

CITY OF EVANSTON
DEPARTMENT OF STREETS
EVANSTON, ILLINOIS

ROBERT M. BROWN
COMMISSIONER

July 15th, 1919.

Our Street Department has in service five two ton, Model "J" Reo trucks and one Model "S" Reo Roadster.

The two trucks first purchased, equipped with Lee automatic side dump three yard steel bodies entered service April 2'd, 1918. One of these was wrecked August 8th, 1918 and replaced August 24th, 1918.

On July 26th, 1918, our Special Garbage Truck entered service, equipped with a wooden body designed to carry 120 garbage cans of one cubic foot each.

On March 26th and April 9th, 1919 two more trucks entered service. These are equipped with three yard Woods' hydraulic hoist rear dump steel bodies.

The roadster entered service May 14th. 1918.

These trucks have hauled crushed stone, sand, cinders, coal, ashes, rubbish and garbage continuously over paved and unpaved streets and alleys in all kinds of weather.

The consumption of gas and oil has been low, the repairs small and I consider the results remarkably good.

I am told the Model "F" truck, in service from March 26th, 1919, equipped with hand hoist rear dump steel body and operated by the Sewer Department is giving equally good results.

Robert M. Brown
Commissioner of Streets

"THE GOLD STANDARD OF VALUES"

Reo Motor Car Company
Lansing, Michigan

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There Are Two Good Halves To Every Economy Truck —

— and Two Good Establishments Behind Every Sale

The dealer must sell and the manufacturer must build—continuously. Successful dealers and permanent truck builders do not waste sales effort.

The stability of the Olds Motor Works is proved by twenty-two years of leadership. Wide experience has eliminated all guess work.

That's why the Oldsmobile Economy Truck is unquestionably a *permanent* sales proposition.

If you are our kind of a dealer write or wire for particulars today.

OLDS MOTOR WORKS
LANSING :: MICHIGAN

Oldsmobile ECONOMY Truck

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Keep Tab on Truck Driver

Ingenious Mechanical Devices Which Keep Record of His Movements Throughout Day in Minute Detail.

KEEPING track of the motor truck driver when he is out of sight, says Highway Transportation, is the problem truck operators must solve to stop the invisible leaks that seep into their business and eat enormous chunks from their profits. Experience of some of the largest and most successful fleet owners in America points out the necessity and economy of mechanical devices to check up the work of their drivers.

The pilot of a motor truck is in a unique position. To a large extent he is free from supervision and when out of sight the owner cannot determine whether or not his truck is at work.

Ingenious mechanical devices have been invented by which he can keep a record of the movements of his trucks almost as well as he could by sitting on the seat beside the driver. These can be attached to the truck and will make a record of the day's performance in minute detail. From the record, which appears on the chart, the owner can tell the time the truck started out, when it stopped, how long it stopped in each case, the length of trips, the time taken in loading and unloading, and the like.

The time recorder is a real aid to the driver, especially so where bonus systems are in effect. Once the driver learns that his movements are known to the traffic superintendent, and that every unusual delay will mean a special explanation from him, he will see to it that the cause of delay is reported. These delays occurred before the recording devices were installed, but were never reported by the drivers.

A large Eastern concern placed time recorders on their fleet of trucks at a time when the actual running time of the total was 28 per cent. Without taking steps to remedy the service they merely explained to the drivers the mechanical construction of the device. In a few week's time they found the actual running time had increased to 33 per cent. After a brief study of the charts the owner discovered and ran down a series of delays, each one chargeable to a different cause, and boosted his running time to 43 per cent.

Operators of trucks who say the cost of mechanical recorders is too high, and that they feel confident to analyze and direct the performances of their trucks without the aid of such devices, are undoubtedly losing thousands of dollars annually. Going with the installation of these instruments is the service of installation and maintenance by the manufacturer, and also expert interpretations of the charts, as well as advice and counsel from intimate contact with the problems the devices are designed to eradicate.

CARRYING A NAPOLEON 1½-TON TRUCK ON A NAPOLEON 1½- TON TRUCK.

The accompanying photograph shows one of the jobs of the Napoleon Motors Co. of Traverse City, Mich., boxed for export. This is one of a large shipment of 1½-ton trucks sent to London, England. In order to get the exact weight of this shipment, one of the packages was loaded on a Napoleon 1½-ton truck and driven to the city scales to be weighed. The entire weight, being 8960 pounds, was exactly balanced on the rear bolster 38 inches back of the rear axle. This necessitated two men riding on the bumper to keep the front wheels on the ground.

In driving this load out of the factory, it was found that the loading platform was too narrow to permit the rear end of the load clearing the factory door. The load was so exactly balanced on the rear wheels that the front wheels were driven off the platform into space a distance of three feet, then while being poised in the air, the load being balanced on the rear wheels was swung around on the platform in perfect safety.

S. H. Rae, factory superintendent, is at the wheel; General Manager W. G. Rath on the seat beside him; Mr. Arntz of the financial department is seated on the front of the box; while C. D. Peet, general sales manager, is standing near the rear with kodak in his hand.

Exclusive Boulevard for Trucks to L. A. Harbor

Situated as an inland city, remote some twenty miles or more from its harbor and outlet to the Pacific Ocean, Los Angeles for years has worked to become a seaport of the importance justified by its present population of more than half a million people.

The motor truck has become an indispensable means of bridging the distance between Los Angeles and Wilmington, but the question of good roads interfered in this comparatively short distance as it has in much longer cases in the Far Western region.

Briefly, the old-time paved roads will not stand under heavy motor truck tonnage, especially that which is now being moved in enormous volume between the Southern California metropolis and its harbor.

As a result the twenty-mile distance is to be covered by what will be the only hard-surfaced, permanently improved boulevard on the Pacific Coast, designed and intended for the exclusive use of motor trucks.

For years the need of such a road has been realized. Cityward and harborward there is always a steady volume of fast passenger car travel and this was bound to conflict with the slower moving motor trucks. The one paved boulevard was inadequate to support the traffic it was called on to bear.

To Build Italia Trucks in San Francisco

The Italia Motor Truck Co. is a new firm in the motor truck manufacturing field of San Francisco. A high-grade truck, to be known as the Italia, will be produced by the company, which is headed, as president, by F. J. DeMartini, late of the DeMartini Motor Truck Co., of the same city.

Plans have been drawn for a modern and up-to-date plant and production on a quantity scale will commence shortly after the first of the year. The Italia truck has been designed carefully by one of the leading engineers and embodies all that is latest in truck construction. This, combined with the character of the company's personnel, should insure the success of the Italia Motor Truck Co.

New Transport Agencies Being Established

Within the period of ten days, recently, agencies for the Transport motor truck, distributed in Southern California, Southern Nevada and Arizona by D. F. Poyer & Son, Los Angeles, were established in San Bernardino, Santa Ana, Long Beach, San Pedro and Wilmington. It is noted that last year about 15 per cent of customers demanded giant pneumatic tires, and many models, from the 1-ton up to and including the 2½-ton, are now so equipped.

The Railroad Men are "Coming Around"

By its sheer merit the motor truck is winning over the railroad men. Their opposition never was very vigorous, compared with their former fights on electric lines, and they now see the motor truck as a valuable feeder, even from a radius of 100 miles from their terminals.

The Goodyear Tire & Rubber Co. has organized a "Motorize the Farm" bureau. Its purpose is to send out information to the country's 6,000,000 farmers on the efficiency of the motor truck; and incidentally of the superiority of pneumatic over solid tires.

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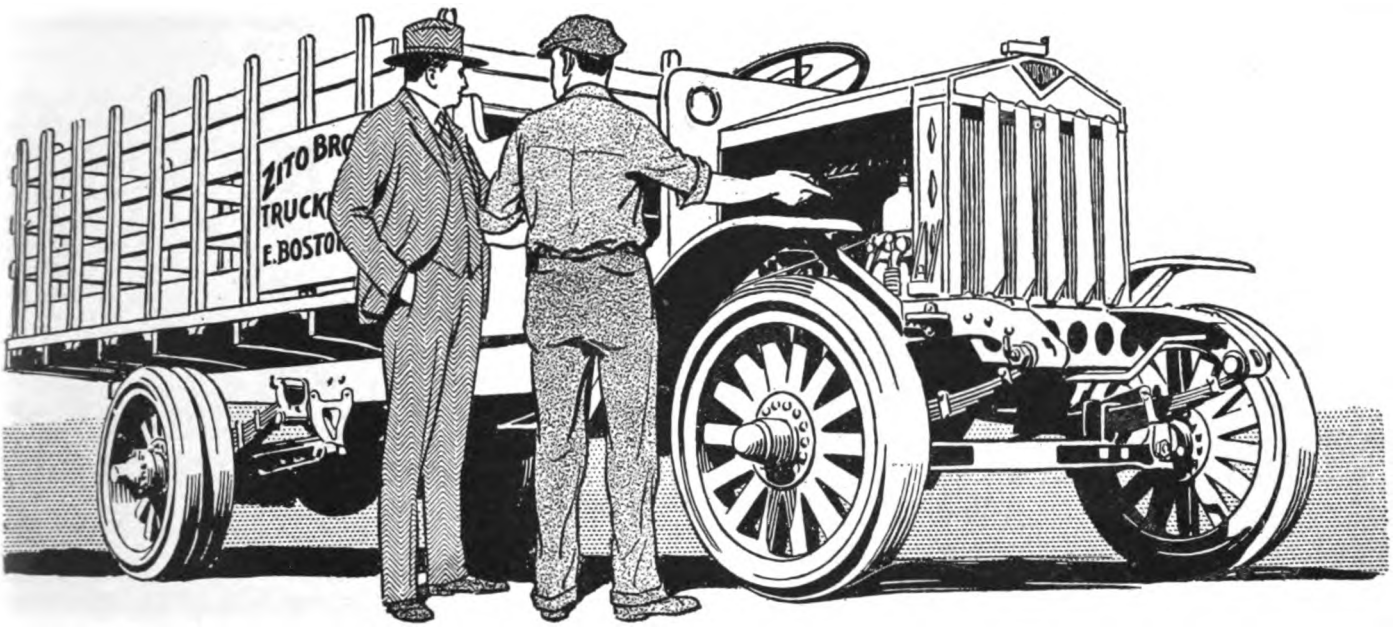


How the "Driver Under the Hood" Saves the Motor

Clydesdale motors owe their long life to the fact that they are never forced to submit to excessive strains.

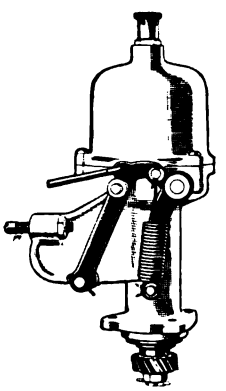
The automatic controller, or "Driver Under the Hood" is ever watchful over the motor and the instant that an up-grade is reached or a hard pull started, it automatically furnishes more fuel and power so that there is no motor strain.

When the hard pull is finished or the Clydesdale starts on the down-grade, the "Driver Under the Hood" cuts down the power automatically to the exact amount necessary. It will not allow the motor to race even when shifting gears.

Their reputation for continuous service and long life make the Clydesdales an excellent dealer opportunity.

1 to 5 Ton Capacity

THE CLYDE CARS CO., CLYDE, OHIO



The "Driver Under the Hood"

The "Driver Under the Hood" is not an ordinary governor. It automatically and skillfully regulates the flow of power to immediately meet every changing road or load condition. It keeps the speed constant, prevents racing of the motor and clashing of gears.

NO OTHER TRUCK HAS IT

CLYDESDALE

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FLEXIBILITY + POWER

Embodied in the power plant of

"KALAMAZOO"

"The Hand-Made Truck"

Gives our distributors something to talk about and we stand back of our truck. Kalamazoo users are satisfied at all times.

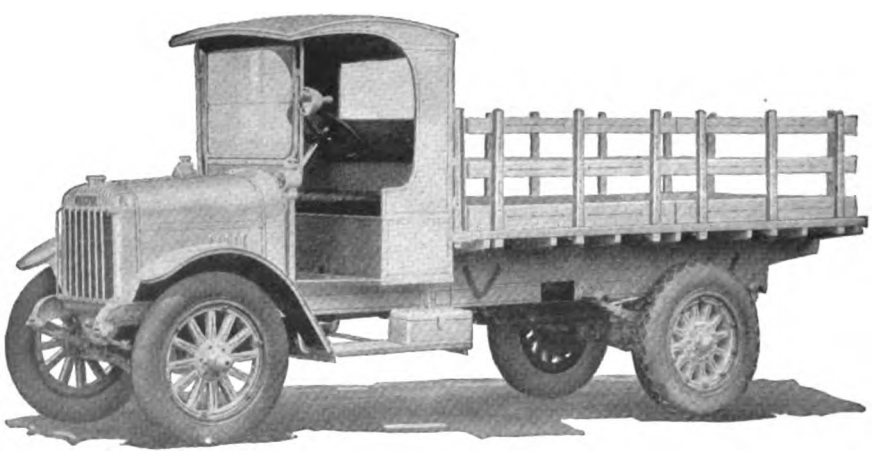
Three Models, 1½ ton, 2½ ton, 3½ ton

Now opening some new territory. Send for our catalogue and proposal to Distributors—it will interest you.

Kalamazoo Motors Corporation
(Motor Truck Division)
Kalamazoo, Michigan, U. S. A.

WOLVERINE

Some Good Dealers Territory is still open.



If interested, wire or write at once, as all territory will be covered very soon.

The Truck of Good Service

An up-to-date truck in every respect which will give 100% service to the owner. Fully equipped with electric starting and lighting system including a searchlight.

MANUFACTURED BY

AMERICAN COMMERCIAL CAR COMPANY
DETROIT, MICH.

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Commerce TRUCKS

If You Were To Build A Motor Truck Yourself—

how long would it be before your skill in motor building would equal that of Continental?

How many years of experience would be required before you could make as good a bearing as Timken?

What investment would it require before you could produce an axle the equal of the Torbenson internal gear drive?

When you buy a Commerce truck you get the benefit of the combined experience, skill, and resources of these and many other of the greatest builders of the automotive world.

The prospective buyer has confidence in the way Commerce is built—the user has complete satisfaction in the way it performs.

The Commerce sales franchise is a valuable asset to any dealer, anywhere. Perhaps your sales territory is open. Wire or write us for particulars.

The COMMERCE MOTOR CAR CO.

DETROIT :: MICHIGAN

FREEMAN A. McKENZIE,
CITY GARAGE, INC.,
1205 South Olive St., Los Angeles, Cal.

McCRACKEN MOTOR CO.,
Portland, Ore.

COMMERCIAL MOTORS CO.,
Seattle, Wash.

C. P. KIEL,
1830 Van Ness Ave., San Francisco, Cal.

SULLIVAN TAYLOR MOTORS, LTD.,
1260 Granville St., Vancouver, B. C.

W. B. WOOD,
Pacific Coast District Manager,
1205 South Olive St., Los Angeles, Cal.

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Motor Truck Lubrication

Acme Expert Gives Some Pointers Which Will Enable Drivers to keep Their Vehicles at High Efficiency.

POOR lubricating oil means always poor lubrication. It does not always work the other way, however; poor lubrication may not sometimes mean that poor oil is being used. The oil in the crank-case may have been originally of the best quality and other circumstances, such as poor or low-grade engine fuel, may have acted on the oil so that it no longer can do properly its work of lessening engine friction.

The low grade of fuel being used at the present time on many motor trucks invariably results in poor vaporization and excessive carburization. In an effort to secure better results, carburetor adjustment is often attempted, usually resulting in decreased engine efficiency.

It is difficult to vaporize completely the ordinary commercial gasoline, says "Acme Angles." On cool mornings, such as we have even on the Coast, it sometimes is very difficult to start engine without first warming up the cylinder jackets or intake manifold. All carburetors are supplied with air chokes which enable the driver, when starting the motor, to close the air inlet passage. This permits a rich mixture of gasoline to enter the cylinders and makes starting less difficult.

Using the air choke too frequently has a tendency to deposit large quantities of gasoline in the crank case of the engine. If, during cold weather when the engine is running erratically, having a tendency to miss, and to warm up slowly, at the same time lacking power and showing symptoms generally of unsatisfactory operation,—if the driver will draw off all the oil in the base, he will find, instead of pure cylinder oil, a solution adulterated with a large percentage of gasoline.

Providing the motor has not been damaged by continued operation without proper lubricant, it should, upon being refilled with fresh oil, show all of its former speed and power. However, if the engine has been operated for some time under the above conditions, it undoubtedly will be damaged permanently.

Resulting Motor Troubles.

Destroying the lubricating qualities of the oil brings about many unsatisfactory conditions, for which there is no apparent cause. These conditions are usually difficult for the inexperienced drived to comprehend. Some of the troubles which are a direct result of the impaired qualities of the lubricating oil are the following:

1. Hard starting.
2. Premature piston wear.
3. Premature cylinder wear.
4. Premature piston ring wear.
5. Connecting rod bearings burning out.
6. Crankshaft bearings burning out.
7. Excessive gasoline consumption.
8. Smoking due to the abnormal increase in the height of oil level in the crank case on account of gasoline working into the base of the motor.
9. Excessive carbon in cylinders.
10. Tendency to overheat due to lack of lubrication.
11. Very poor or no compression.

All of the above result in lack of power and poor performance. This diluted mixture tends to soften the carbon and practically makes a carbon-gasoline lapping compound which has a tendency to aggravate the wear already caused by parts running without adequate lubrication.

How to Prevent Foregoing Troubles.

To eliminate so far as possible the foregoing conditions:

1. Keep the engine free from carbon.
2. Replenish regularly the oil supply in the engine base. For trucks in constant service this should be done every week in cold weather, decreasing to once a month in the heat of summer.
3. Use choke sparingly.
4. Do not adjust carburetor to give a rich mixture. This helps in starting, but the excess fuel eventually finds its way to the oil reservoir. Always make carburetor adjustments after the motor has run for some time and is thoroughly warmed up.
5. Use best grade of gasoline obtainable.

Inspect Oil Screen and Oil Pipes.

It is common knowledge what will happen to an engine if it is run without oil, but it is also possible for a motor to be ruined with oil pan apparently full of oil. First, it may be so thinned out with raw gasoline as not to possess proper lubricating qualities. Second, the oil screen, or oil feed pipes, may be clogged, interfering with proper circulation. A certain amount of carbon will deposit on inside of piston head which in time will scale off and drop into the oil pan and lodge in the oil screen and oil pump valves. This is another reason why the oil pan should be occasionally drained and cleaned.

The oil screen at bottom of oil pan is very easily removed for the purpose of draining and cleaning, and it will be well worth while to give this point frequent attention.

Important Suggestions.

Study the engine carefully. Familiarize yourself with its interior construction and the functions of the various parts. Both the truck and the engine manufacturerers furnish instruction books free for each model engine.

Thoroughly acquaint yourself with the ignition system and learn how to avoid its most common troubles. Practically every truck manufacturer furnishes valuable literature on this subject, also.

Learn everything possible about the carburetor, so that in an emergency you will not be helpless. Do not attempt adjustments which require an expert. Send for the usual instruction booklets.

Do not race the engine; nothing does more to shorten its life.

Do not start the engine with spark advanced; form the habit of retarding the spark whenever you stop.

Keep the oil level above "one-half" full on the gauge.

When you hear a knock try to locate it—then take the truck to an expert if it is something you cannot overcome yourself.

Make it a habit to examine water, oil and gas supply before starting out.

Use the best grade oil obtainable.

Keep the engine clean inside and out. It is well to frequently drain the oil pan and substitute a fresh supply of oil.

Keep the valve tappets in proper adjustment.

In other words, apply the Golden Rule to your engine. Then it will outlast the truck.

DIAMOND T TRUCK CARRIES BATTLE-SCARRED GUN.

A battle-scarred gun which has seen service in many parts of the truck from the Marine Recruiting Office at 619 South State street, Chiworld with American forces was transported by a Diamond T motor cago, to the International Amphitheater at the stockyards, where it was used to fire the opening salute at the reunion of the members of the American Legion. The Marines who accompanied the gun on its peaceful mission were all veterans of Chateau-Thierry. Among them was Sergt. Anthony Kane, at the extreme left, who was honored with the highest French military decorations for bravery.

Moreland Truck Turned Into Rail Car

In New Zealand, after a trial between Sydney and Waterfall, "Rail Motor No. 1" was put in regular service. It is a former 5-ton Moreland truck, converted into a rail motor car, with its chassis lengthened 8 feet 6 inches, the front wheels replaced by a 4-wheeled "bogie," identical with that placed under the fore part of a locomotive, and the rear wheels replaced by those used on railway cars. The special body accommodates 33 passengers. It has six doorways, two at the center, at the sides, two at each end, as in Australian street cars. The 40-horsepower motor propels it as 25 miles an hour. A grade of 1 in 40 was done at 18 miles per hour without taxing the engine. The motor's purr is hardly distinguished above the click-click of the wheels. There is no jerk in starting, and the spring adjustment is such that the only new feeling at top speed is a slight, not unpleasant swaying.

The plan is to attach a small goods van, or rail trailer. If the idea works well three months, it will be the beginning of a new railway service feature in New Zealand.

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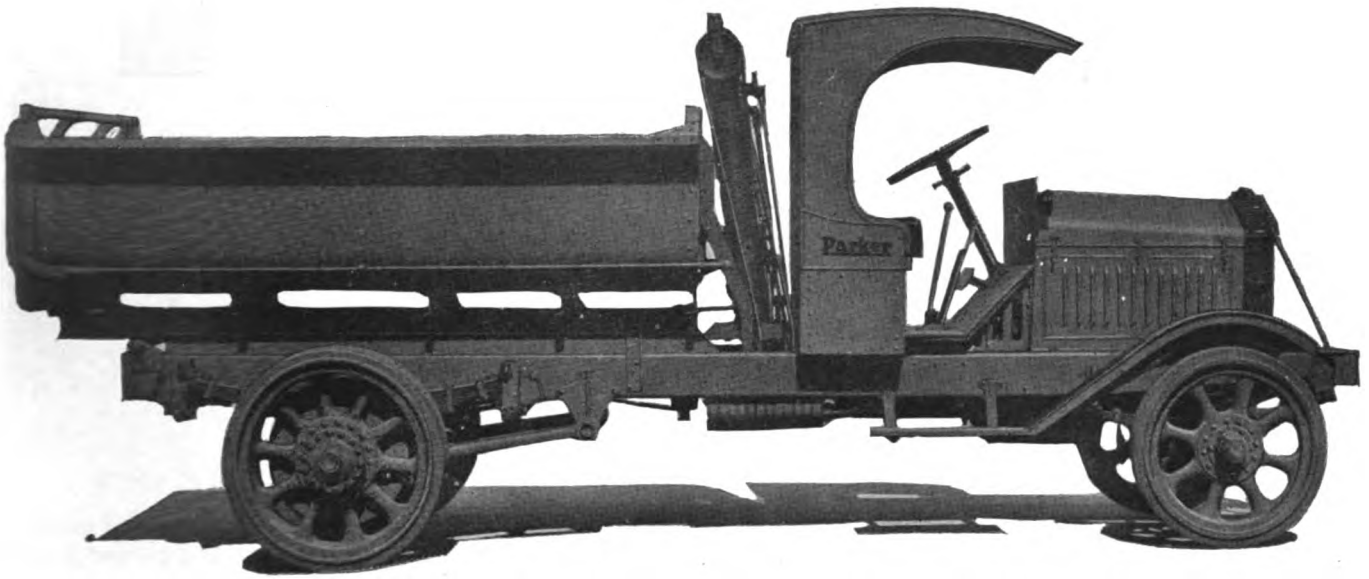
Smith Wheels



PARKER

5-ton Trucks are now all being equipped with

SMITH WHEELS

Everlasting

This is another standardization on Smith Wheels, added to the already big list of over 120 well-known Truck Makers.

"There is a Reason"

SMITH WHEEL INC.
SYRACUSE, N.Y., U.S.A.

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HI-TEST

LUBRICANT

is solving TRANSMISSION *and* DIFFERENTIAL DIFFICULTIES

PROOF

not one complaint in thousands of users!

SERVICE STATION
Smith's Service Station
91 12th Street
Oakland, Calif.

MANUFACTURERS
United Products & Sales Corporation
512 Second Street :: San Francisco, Calif.

SERVICE STATION
Essex Garage
819 Ellis Street
San Francisco, Calif.

Fourteen-Year Mules and Six-Year Truck

The Horse Publicity Association of America gleefully remarks: "Two mules that cost less than $500 have been driven on the streets of Richmond, Va., for 14 years. In that time they have traveled 43,400 miles, nearly twice around the world, and they have hauled 52,080 tons equal to 3472 cars, or a freight train 26 miles in length. I should like to see a truck equal that."

Rolfe C. Spinning, advertising manager of the Service Motor Truck Co., Wabash, Ind., says: "Inasmuch as our company has only been in existence 10 years, we cannot point to trucks that have been driven for 14 years, but we want to call attention to a 1½-ton truck of ours that is now in its seventh year. This truck was used by the Goldreich Fertilizer Co., Marion, Ind., for over six years, and a few months ago was traded in by them towards a larger Service truck. The old truck was bought by the Dillinger Transfer Co., 5307 Fifth Ave., Pittsburg, Pa., and is being operated by them daily.

"During the six years that the truck was owned by the Goldreich Fertilizer Co. it covered 240,000 miles and during that time established the almost incredible record of over 361,000 ton-miles. In terms of around-the-world, this truck has covered the distance almost 10 times. And we should remember that it took those mules 14 years to haul 52,000 tons, while the one truck, in six years, hauled over 361,000 tons."

Ohio Trailer to Increase Capitalization

The Ohio Trailer Co., of Cleveland, has called a meeting of its stockholders to be held October 1 for the purpose of considering the proposition to increase the capital stock from $300,000 to $1,000,000.

U. S. Motor Truck Co. Buying Largely

The United States Motor Truck Co., Covington, Ky., is making heavy purchases of parts of material in Detroit, and will use many Hinkley motors.

Comprehensive Motor Truck Transportation

Kansas, Oklahoma, Missouri and Nebraska will be the fields of the Patriot Motor Truck Express lines, a corporation formed with capital from Chicago, Kansas City and Baltimore; with a Chicagoan as general freight agent; a former Swift & Co. man in Kansas City as general traffic manager and another Kansas City man as division superintendent there. The field will have divisions, as railway fields have, the difference being that the motor trucks will stop at the merchant's or farmer's place and deliver to the consignee direct.

There will be time schedules which, of course, the plan will force to be approximate as to minutes, if not hours; but the service will give railroads strong competition. The idea was in progress when war held it up. Some of the motor trucks will have faster schedules and fewer stops than others covering the same areas.

The Patriot motor truck, made by the Hebbs Motors Co., Lincoln, Neb., was selected after exhaustive comparisons.

New Trailmobile Factory Nearing Completion

Construction work on the new factory of the Trailmobile Co. in Cincinnati is progressing and the company believes it will be the finest exclusive trailer plant anywhere. The first unit will be 200 by 500 feet. The company recently made exhibits of its trailers at the California, Texas and Ohio state fairs.

Plenty of Truck "Prospects" in Sight

Statistics compiled by the Goodyear Tire & Rubber Co., Akron, O., show there are approximately 6,000,000 farmers in America and only 78,000 motor trucks on the farms. On these figures it is said there are 2,500,000 truck prospects. Assuming that 200,000 bought trucks within the year it would be equivalent to the sale of 1,000 trucks by every manufacturer in the country.

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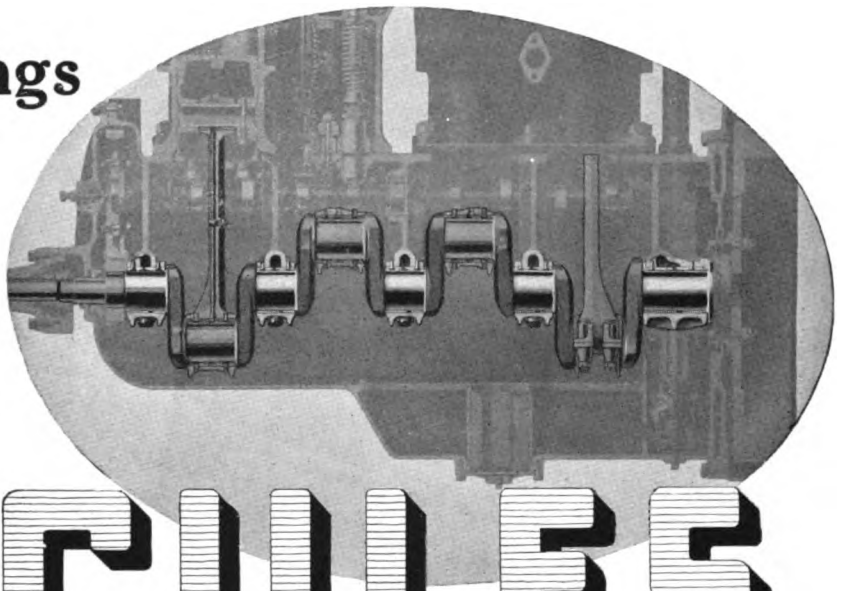
5 Main Bearings and Why



HERCULES

Because—

for Trucks and Tractors

The tremendous pressures of the exploding gases are absorbed by a main bearing equally spaced on each side of each crank pin and smoothly transformed into rotative effort.

Thru them extremely low bearing pressures are maintained —assuring almost endless life for the bearings.

5 Main bearings eliminate the crank arm deflection and excessive vibration due to this deflection—thus reducing internal losses and increasing mechanical efficiency.

5 Main bearings permit a crankshaft design of minimum weight, yet maintaining maximum strength and rigidity.

5 Main bearings on a 4 throw crankshaft provide the foundation for a well balanced heavy duty engine.

The fundamental principle of having a main bearing on each side of each crank pin was recognized by the eminent designers of the Liberty Aviation engine when they sought the most reliable construction.

We have facilities for increasing our present output of 100 Engines per day and would gladly serve interested truck and tractor manufacturers.

The Hercules Motor Mfg. Company

Canton, Ohio

Sales Offices: **Detroit Chicago Buffalo**
San Francisco London, England

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Good Place to Seek Tractor Sales

The California Land Settlement Board is favorably considering the purchase of 50,000 acres in Imperial Valley. It is regarded as one of the best among 69 tracts offered. Whatever tract is purchased, it should be a profitable stamping ground for competent tractor salesmen with good machines. The community spirit is strong in these settlements, and the men who settle them, owing to the financial requirements of applicants, are men of hard sense and farming ability, who come pretty near knowing a good thing when they examine it, and whose favor after trying it is worth much to the seller because their neighbors will go and buy likewise.

Large Orders Follow La Crosse Reduction

The La Crosse Tractor Co., La Crosse, Wis., has cut the price of its machine from $1250 to $895, resulting in an avalanche of orders. The price was experimentally announced in the Minnesota and Wisconsin fields, with surprising increase in orders. It was then announced at a banquet to 65 distributors, nearly all of whom immediately demanded larger allotments, totaling $3,000,000. Despite general raises in price, the company expects to offset the reduction in quantity production.

Pope to Make One Dakota Tractor Daily

The Pope Mfg. Co., Watertown, S. D., plans to build one Dakota tractor daily during 1920. This machine has open wheel grip. The company is developing a larger machine for use on big farms and roads.

Florida Factory Takes $200,000 Order

The Oldsmar tractor plant, 14 miles from Tampa, Fla., at Oldsmar, a town created by R. E. Olds of Lansing, Mich., has taken a $200,000 order and is said to be arranging to double its capacity.

A Guide to Longer Tractor Life

Together with a general knowledge of agriculture the farmer of today must have a working acquaintance with farm mechanics. He must know how to repair and operate various types of special machines, gas engines, automobiles and tractors. What is just as important, he should know how to lubricate them.

A great many users of gas engines, ranging from aviators to operators of stationary engines, ask merely for "grease," believing apparently that one single lubricant is equally suitable for anything from a wheelbarrow to a caterpillar tractor tread.

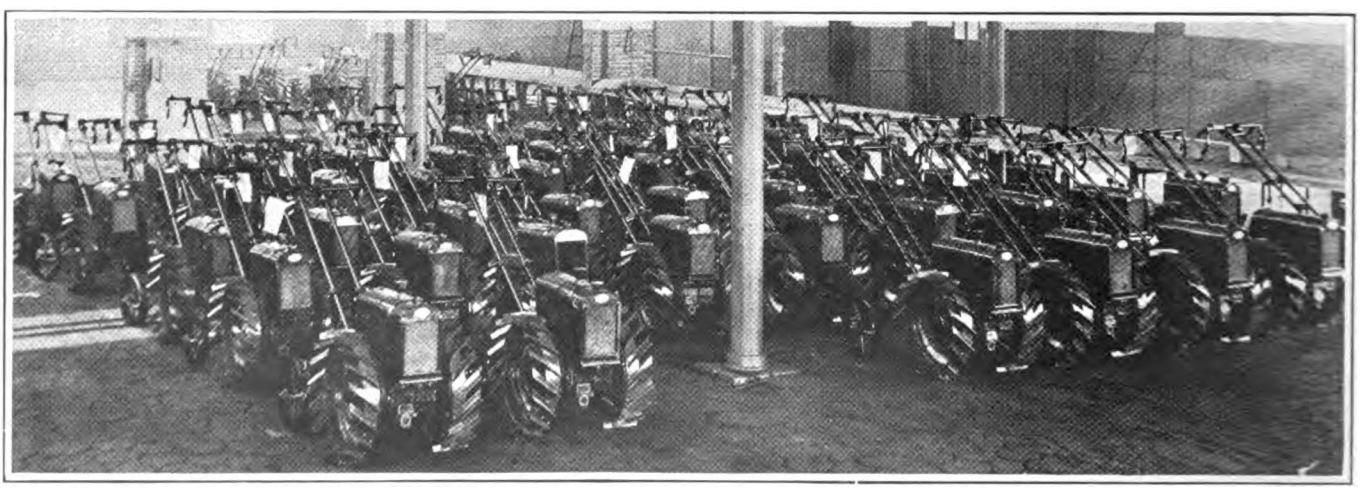
The Joseph Dixon Crucible Co., of Jersey City, N. J., has come forth with the "Tractioneer's Guide." Thousands of copies of this "Guide" has been distributed to classes in farm mechanics at all the agricultural colleges in the country. When details of lubrication are studied, says the Dixon Co., machinery, especially tractors, will last at least two years longer than they do now.

Fordson Discontinues Distributors

The distributor of Fordson tractors will no longer exist by August, 1920; by that date Fordson tractor and Ford car merchandisers will be one and the same. The change may be considered one of the most radical and far-reaching ever seen in the tractor industry. During the past eighteen months some 75,000 Fordson tractors have been put on American farms and during the next ten months of grace to the distributors the number will be doubled, it is expected.

Cleveland Tractor Adds to Plant

The Cleveland Tractor Co., of Cleveland, O., will erect two additional buildings, enlarging its manufacturing facilities by some 310,000 square feet of floor space. The two buildings will cost about $400,000.



THE MIDWEST ENGINE CO. IS PREPARING TO MEET THE BIG DEMAND FOR ITS UTILITOR.

It would appear that automotive dealers over the United States have accepted the fact that now is the logical time to safely and aggressively cultivate the power farming field. At least, it would appear that they now believe the time has arrived when the automotive dealer can no longer restrict himself to the selling of automobiles, but must bear his share of the burden of assisting the food production activities of this country by representing that class of power farming device which will ably assist not only farmers but truck raisers and fruit growers. As a criterion of the broader vision of the present day automotive dealer, the Midwest Engine Co., Indianapolis, announces that aggressive and up-to-date automotive people are clearly sensing the demand for the new power farming implement this company is now producing.

The Midwest Utilitor, which is a self-propelled farming implement designed to do the work of one horse in the field, such as plowing, disking, pulverizing, seeding, etc., is meeting with a truly wonderful reception when it is considered that actual production on this machine was not started until this fall, although the company had been ready to receive applications for dealers' franchises as early as late summer. The accompanying photograph showing one section of the Utilitor Division of the Midwest Engine Co. and a quantity of Utilitors ready for shipment, gives some conception of the present-day production possibilities on the Utilitor by its producers.

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The Time is Ripe

UP until a few months ago conservative farmers were still looking upon tractors as a distant possibility, but now these same farmers speak of tractor ownership as an immediate certainty.

Even those men who are in closest touch with tractor development are amazed at the way in which farmer opinion has swung irresistibly tractorward.

Farmers have not only found that they need tractors, but their is a decided preference for the

Cletrac
TANK-TYPE TRACTOR

They want the Cletrac because it replaces horses on the farm not only for plowing but for every job the farmer has to do every day in the year. They know that it will give not only a complete haulage service but an economical and dependable stationary power service as well.

1920 Presents a Wonderful Opportunity for Cletrac Dealers

If you are going to sell tractors, get started now. Spring is only a few months away. The wise farmers will buy now and get acquainted with their Cletracs before the heavy spring work begins. Cletrac dealers are finding the winter a profitable time to line up and close their early spring prospects.

Send for the dealer book "Sale Quality in Tractors," today.
It gives the whole story of this wonderful opportunity.

The Cleveland Tractor Co.

19201 Euclid Avenue Cleveland, Ohio

Largest Producers of Crawler-Type Tractors in the World

The Cletrac runs on a pair of tracks like a locomotive

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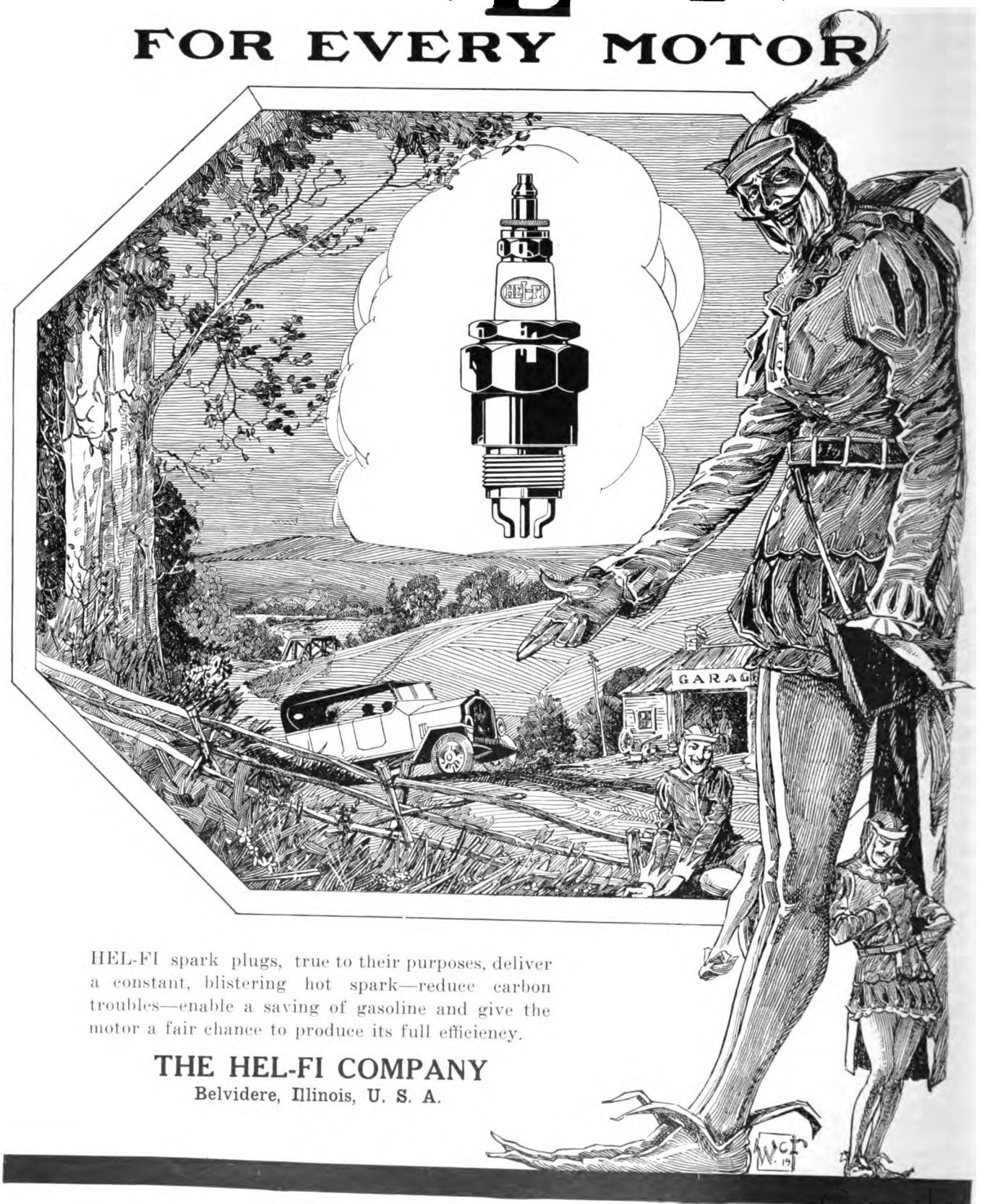
THERE IS A HEL-FI FOR EVERY MOTOR



HEL-FI spark plugs, true to their purposes, deliver a constant, blistering hot spark—reduce carbon troubles—enable a saving of gasoline and give the motor a fair chance to produce its full efficiency.

THE HEL-FI COMPANY
Belvidere, Illinois, U. S. A.

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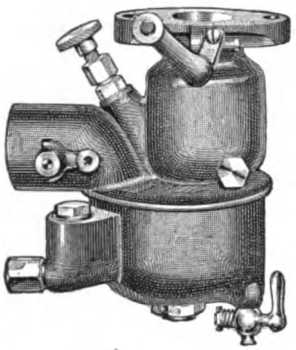

Made for Maxwell Cars

KINGSTON CARBURETORS

THE KINGSTON Company, oldest and largest builder of carburetors in America, has perfected a special carburetor for Maxwell cars. The Maxwell Special is simple, staunch, flexible and easily controlled. It will get the last atom of power from your gas. It will operate smoothly, easily, dependably. If you have never known the complete satisfaction in having a carburetor that meets every demand, all the time, in good conditions and in bad, investigate this special Maxwell Kingston. ¶ It has been built for the Maxwell Owner. It will solve, once and for all, his carburetor problems. It is backed by the strongest guarantee that we know how to make.

TO MAXWELL OWNERS—The price of this super carburetor with hot-air stove complete is $11.00. If your dealer can't supply you send order to us direct.

TO DEALERS—Write us at once for special proposition.

Western Representative: **FRED I. HOUSTON, 1235 Van Ness Avenue, San Francisco.**

BYRNE, KINGSTON & CO., Kokomo, Indiana, U.S.A.

BRANCHES: New York City, 1733 Broadway; Chicago, 1430 Michigan Avenue; Detroit, 870 Woodward Avenue; San Francisco, 1235 Van Ness Avenue; Boston, 15 Jersey Street.

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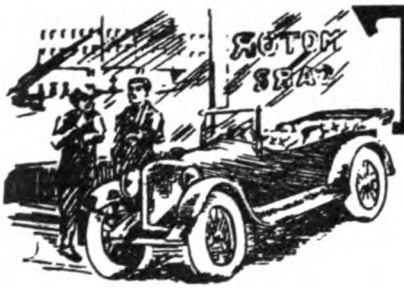


Trade Briefs and Factory Gossip

Bits of Trade News from Detroit.

Body building is coming into its own. Witness the over-subscription of the $10,000,000 stock of the Fisher Body (Ohio) Company within a few hours after it was offered to the public by the underwriters; this although the plant is not yet in sight. Comparison is made with the difficulty a few years ago, in interesting investors in this important phase of the automotive industry. Now the builders of automobile and motor truck bodies are launching the great expansion campaign in the history of the business. The Detroit Wilson and Fisher plants are being greatly enlarged. At River Rouge the Ford plant, largest of its kind, soon will be turning out thousands of bodies daily. The Pontiac Body Co. will about double its output, and an addition to the O. J. Bendett Company plant in that city is said to be contemplated. Other body concerns, and the body departments of automobile factories, are also to be given increased capacity.

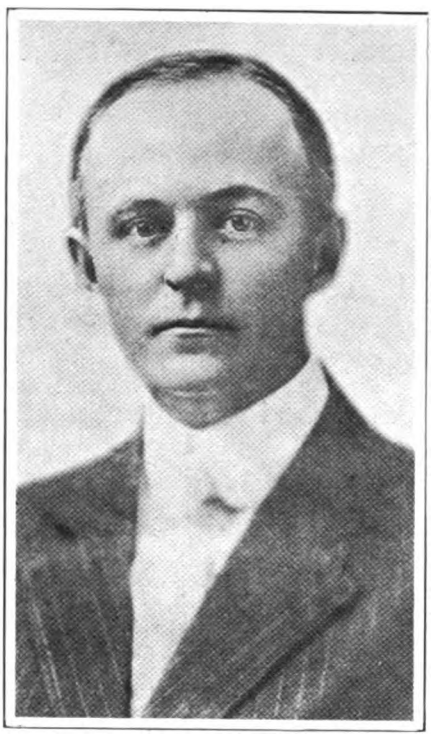
In Cleveland the output of the Lang Company is to be trebled. The Rubely Company, also of Cleveland, will greatly enlarge and the Brown Body Co. is to do the same, with proceeds of sale of the remainder of $1,000,000 7 per cent cumulative, convertible preferred stock, now on the market at $100 and accrued dividends. It has $4,500,000 worth of orders on its books.

In Rahway, N. J., the Superior Body Co. is contemplating additions because it has $8,000,000 of orders on hand.

Latin-America, England, Italy, Belgium, France and Sweden are hungry for automobiles and motor trucks. The hoped-for source of supply is this country, and this is another reason for speeding up production. Thirty-three factories' aggregate output per day in September was 6943; in October, 7470, an increase of 527 in daily output—189,720 in 360 days.

Again afloat, and denied by firm silence as far as General Motors officials are concerned, and not bothered to be denied by Ford interests, is the rumor of prospective purchase of the latter by the former. The untruth of the rumor is indicated by the announcement made through the Ford branch factory in Milwaukee that after August 1, next year, Ford dealers will sell Fordson tractors, which now are marketed through other channels.

For his many years as general manager, Charles D. Hastings, who in addition has been vice-president, was elected president of the Hupp Motor Car Corp. at its recent directors' meeting Detroit. Mr. Hastings succeeds



G. D. WILCOX,
Director of Sales and Advertising Commerce Motor Car Co., Detroit.

J. Walter Drake, who remains as chairman of the board, and who personally urged his team-mate's advance, declaring the position of general manager to be the most important in the organization, and its worthy filling worthy of reward. Mr. Drake had been president since the company was formed in 1908. Mr. Hastings joined soon after, taking charge of sales and then general management. He retired from business briefly, but in 1917 returned, with vice-president added to his titles. Meantime Mr. Drake had general-managed affairs himself.

C. A. PFEFFER,
Secretary-Treasurer Saxon Motor Car Corp., Detroit, Mich.

Dodge Brothers, who began making the Dodge less than five years ago, recently turned out their 400,000th machine. The first was put out December 4, 1914; the 100,000th on October 31, 1916; the 200,000th by October 31, 1917; the 300,000th by December 13, 1918. The grand total shows an average of 90,000 yearly. There are more than 17,000 men in the plant and the original 20 acres has been increased to 90 and that is insufficient.

* * *

Saxon Reorganization Plan Ratified.

Stockholders of the Saxon Motor Car Corporation unanimously endorsed the new reorganization plans of the company, as outlined by C. A. Pfeffer, secretary and treasurer of the corporation, at the special stockholders' meeting recently held in New York. This plan provides the company with a working capital of between $2,500,000 and $3,000,000.

The Saxon Motor Car Corporation is now reorganized under the provision of the laws of New York state (that being the state under whose laws the company now exists) creating a new stock issue of 200,000 shares of no par stock. 60,000 shares of which is exchanged share for share with present stockholders; 120,000 shares will be marketed through an underwriting syndicate. The remaining 20,000 shares will be reserved for general corporate uses.

The fact that stockholders have ratified this new plan is further proof of reward given to the efforts of C. A. Pfeffer, secretary of the Board of Directors, who for the past few months has been working hard and zealously to place the company on a sound business basis. The new plan will give the company a new, solid, financial footing upon which it can completely carry out the broad plans for expansion as laid down by Mr. Pfeffer.

* * *

Heads Timken Bearing Sales.

H. J. Porter has been made sales manager of the Timken Roller Bearing Co., of Canton, O. He has been connected with the company for eight years. J. R. Comber has been moved from the position of head of the sales order division to field work with the tractor and farm implement division.

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GILL
The Perfect One Piece Piston Ring

"Here Is the Piston Ring I Recommend"

The garage man says this with an accent of pride when he holds out a Gill Piston Ring towards the customer. He knows the Gill Ring only has to be shown to convince that it is the "perfect one piece piston ring." There is no argument necessary, one look at the double step interlocking joint and anyone with even the slightest mechanical knowledge can see that it is head and shoulders above any other ring on the market.

Just think for a moment. The Gill Piston Ring allows an expansion of from $^1/_8$" to $^3/_{16}$" without any loss of compression and at the same time has all the advantages of a one piece ring. Made from single piece castings of the finest gray iron and machined to absolute accuracy. The easiest ring on the market to install, the easiest ring on the market to sell.

Send for the new Gill Piston Ring Size Directory, complete, convenient, and full of just the information you need. It is free to the trade.

Dealers—Ask your jobbers about them
Jobbers—Write to us for information

The Gill Manufacturing Company
351 West 59th Street, Chicago, Illinois

Sole Foreign Agents:
AUTOMOTIVE PRODUCTS CORPORATION
Woolworth Building, New York, N. Y.

Pacific Coast Branches:

Gill Piston Ring Co.
1313 S. Figueroa St.,
Los Angeles, Cal.

Gill Piston Ring Co.
803 Van Ness Ave.,
San Francisco, Cal.

Gill Piston Ring Co.
723 E. Pike St., Seattle, Wash.

See the Gill Piston Ring Exhibit at the New York and Chicago Automobile Shows.

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Hercules Motor District Managers.

In accordance with a new sales policy, adopted to more thoroughly serve the truck and tractor industry and to better handle its increasing business, the Hercules Motor Mfg. Co., Canton, Ohio, has appointed five district sales managers. The Eastern district is under the direction of John Carey, with headquarters in Buffalo, N. Y. Detroit is the headquarters of the Central district, with D. I. Cooke, formerly a captain in the army, in charge. Allen Kendall has been put in charge of the Midwest district, with headquarters in Chicago. The states west of the Rocky Mountains have been incorporated into the Pacific district, of which George McMullen is district manager, with offices in San Francisco.

* * *

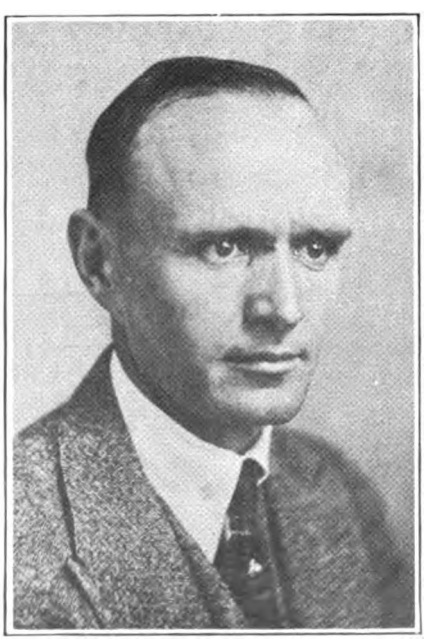
Goodrich Bonus on Salaries.

Six thousand salaried employes of the B. F. Goodrich Rubber Co., of Akron, O., will get salary bonuses equal to 25 per cent of this year's salaries on the first of next year. This will mean an additional expense of $2,000,000 to the company. It goes to salesmen, department manager, officials, clerks and bookkeepers.

* * *

Rockhill Goodyear Sales Manager.

The automobile industry generally, and the tire world particularly, will be interested in the announcement by The Goodyear Tire & Rubber Co., Akron, Ohio, of the creation of the position of sales manager, and the appointment to that position of L. C. Rockhill, who is widely known in the trade. The appointment, coming as it does, at a time when Goodyear is able to announce the close of the most successful year in its already remarkable history, with a total gross sales of over $169,000,000, will attract wide attention to the man who will direct the sales policies of this American industry whose activities reach to the far corners of the world.



L. C. ROCKHILL,
Sales Manager Goodyear Tire & Rubber Co., Akron, O.

Selling New Timken Preferred Stock.

The public is being given opportunity to buy of the new $5,000,000 issue of 7 per cent cumulative prefered stock of the Timken Axle Co.—such part as is not taken by present holders of preferred and common—at par and accrued dividends. Dividends are exempt from normal Federal income tax and from property tax in Ohio and Michigan.

Brokers are giving the public the information that Timken is the largest maker of roller-bearing axles and worm gearing, operating four Detroit and one Canton, O., plant, totaling 825,000 square feet of floor space. Sales have increased from $3,263,518 in 1910 to $34,033,564 in 1918, and the average annual net income for the five years ending June 30, 1918, was more than 5½ times the amount required for dividends on the new issue.

* * *

Correction on Brunswick Item.

In a recent issue of "Motor West" appeared an article in which John W. Maguire was mistakenly referred to as a former vice-president of the Brunswick-Balke Collender Co., of Chicago. Mr. Maguire was formerly general sales manager of the company's tire division.

* * *

"Bill" Nash Joins Beaver.

William Henry ("Bill") Nash has resigned from the Timken-Detroit Axle Co., of Detroit, to become sales manager of the Beaver Mfg. Co., of Milwaukee. The Beaver manufactures gas engines and is soon to expand by manufacturing a passenger car.

* * *

Fulton With Gill Mfg. Co. Sales.

The sales staff of the Gill Mfg. Co., Chicago, has been augmented recently by the addition of F. F. Fulton, formerly sales manager for the Inland Machine Works of St. Louis, Mo. Mr. Fulton will devote his time with the Gill organization to working as special representative doing constructive sales work in conjunction with the various Gill distributors.

* * *

Lafayette Motor Personnel.

The Lafayette Motors Co., of Mars Hill, Indianapolis, Ind., announced the company's personnel recently. Charles W. Nash, of Kenosha, Wis., heads the company as president. James J. Storrow, of Boston, Mass., is chairman; D. McCall White, Indianapolis, vice-president; E. C. Howard, Indianapolis, vice-president; and M. J. Moore, Indianapolis, secretary-treasurer.

* * *

Fruar Now With Standard Truck Co.

F. J. Fruar, whose automotive experience dates back to the single-cylinder days of E. R. Thomas in Buffalo, has taken over the duties of chief engineer of the Standard Motor Truck Co. Mr. Fruar has been in the engineering department of the Packard Motor Car Co. for the past eight years, his time having been divided among the experimental, carriage and truck divisions. For the past year he has been engineer of truck special equipment.

Eisemann Magneto Builds in Chicago.

The Eisemann Magneto Corporation of Brooklyn, N. Y., has purchased a plot of ground at 3641-3643 Michigan avenue, Chicago, upon which will be erected a two-story structure to be used as a service station, garage and repair shop. Also the Chicago office and show-room will be maintained at this address. Architect's plans have been drawn for this building, which is to be 52 feet front by 143 feet deep.

* * *

Detroit Weatherproof Expands.

The Detroit Weatherproof Body Co., of Pontiac, Mich., has bought the factory of the Brigham Trailer Co., of Corunna, Mich. This adds 90,000 square feet of manufacturing space to the body firm. Increased business made urgent the securing of larger space and arrangements will not be disturbed at the Pontiac factory.

* * *

Schneider Heads Tructractor Sales.

Louis J. Schneider has been appointed general sales manager of the Clark Tructractor Co., 1122 South Michigan Avenue, Chicago. Mr. Schneider is a graduate of the Stevens Institute of Technology, Hoboken, N. J., and is a member of the Society of Automotive Engineers, as well as of the American Society of Mechanical Engineers. He has been closely identified for many years with the automotive industry, having served in the engineering department of the Hyatt Roller Bearing Co. during 1911 and in the sales department from 1912 to 1916. During the early part of 1917 Mr. Schneider was sales manager of the Jackson Rim Co., Jackson, Mich., and later in the same year he became sales manager of the Harrison Radiator Co., Lockport, N. Y., which connection was severed at the time he assumed charge of the sales department of the Clark Tructractor Co.

LOUIS J. SCHNEIDER.
General Sales Manager Clark Tructractor Co., Chicago.

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ON THE MARKET FIVE YEARS

=

OVER 20,000,000 IN USE

=

POPULAR BECAUSE THEY MAKE GOOD

Be sure you get the genuine NO - LEAK - O PISTON RINGS, wrapped in oil paper, put up in square cartons bearing the trade mark—

NO-LEAK-O and the SEAL in the RING

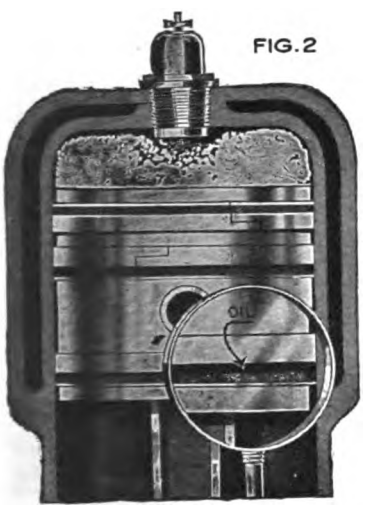
Reputation Through Actual Service

WHY MOTORS LEAK—HOW TO PREVENT IT

The cylinder walls of all gasoline motors warp from expansion and contraction; they also wear. As a piston ring cannot conform to these irregular surfaces, the explosion and other forces destroy the seal of oil as it passes over these places; the gas escapes and oil passes up.

"THE RING WITH A REASON" WILL PREVENT IT

"NO-LEAK-O" Piston Rings have a 45 degree angle-groove full of oil between the ring and the cylinder wall, which pulsates as the piston moves up and down. This pulsation KEEPS a film of oil between the ring and the cylinder wall, REGARDLESS of these warped or worn places on the cylinder wall. The motor maintains maximum power all the time.



The oil is retained in the groove between the ring and cylinder wall just where needed for lubrication and to form the oil Seal.

BEWARE ATTEMPTED IMITATIONS

NO-LEAK-O PATENTED

HOW NO-LEAK-O RINGS ARE MADE—IMPORTANT

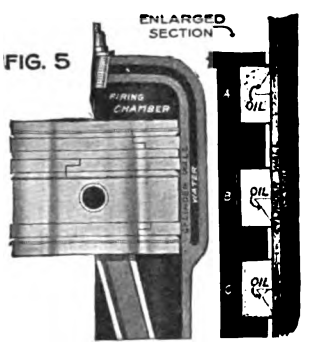
"NO-LEAK-O" "oil SEAL ing" piston rings are made from a special formula of close-grained tough gray iron, a few points softer than proper cylinder metal. Concentric, accurately finished. Individually cast, retaining on the inside the skin of the casting, which insures long life and lasting resiliency. Made under patented processes, by which even tension on the cylinder wall is secured, superior to any other process of manufacture.

"NO-LEAK-O" rings are not ground, but turned, leaving the tool marks. They will fit themselves quickly. Easy to install—not liable to break. Every full set, when properly installed, guaranteed to give satisfactory service or money refunded.

COAL OIL INJURIOUS TO LUBRICATION

By REVERSING the top ring (groove part up) the coal oil that is in gasoline, attempting to pass, is trapped in the groove. (See Fig. 5, Letter A.) On the firing or power stroke it is drawn into the heated firing chamber. It will then be exploded into power, or go out the exhaust pipe—not down into the oil pit, to injure lubrication.

"NO-LEAK-O" Restores Power in Old Motors Without Reboring.



A ring made under any other process or a groove cut in any other shape or position, or in any other manner will not produce results that "NO-LEAK-O" Rings do.

STOCK SIZES AND PRICES

All sizes up to and including	3	3-4 x1-4	$	.50
3	3-4 x9-32	"	3	3-4 x7-16	.55
3	13-16x3-16	"	3	15-16x1-4	.60
4	x3-16	"	4	1-8 x1-4	.65
4	1-8 x9-32	"	4	1-4 x1-4	.70
4	1-4 x9-32	"	4	3-8 x3-8	.75
4	1-2 x3-16	"	4	3-4 x1-4	.80
4	3-4 x9-32	"	4	15-16x1-4	.85
5	x3-16	"	5	1-16x1-4	.90
5	1-8 x1-4	"	5	1-2 x1-2	.95
5	5-8 x5-16	"	5	3-4 x3-8	1.00
6	x1-4	"	6	x5-16	1.10
6	x3-8	"	6	x1-2	1.15
6	1-4 x5-16	"	6	1-4 x1-2	1.20
6	1-2 x5-16	"	6	1-2 x1-2	1.25
7	x3-8	"	7	1-2 x3-8	1.50

For larger sizes see Price List. Special Sizes and Prices Given on Application.

When ordering, give bore of cylinder, width of ring, or the year, model and make of car.

NO-LEAK-O PISTON RING CO., Baltimore, Md.

Factory: MUSKEGON, MICHIGAN

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Winther to Build a Passenger Car.

The Winther Motor Co., Kenosha, Wis., at a recent convention of its distributors, announced that in addition to the company's enlarged production program for trucks, the Winther passenger car—a "six"—would be built. President M. P. Winther, in speaking of the "six" said that it is to be of the very latest design, with an unusually efficient power plant, and a body unique in its simplicity and graceful lines. Winther engineers have been at work for over a year designing and developing this new job, and deliveries will start in about January 1 or shortly after.

* * *

An Idyll of the Field and Rubber.

Seneca G. Lewis, now vice-president and general manager of the Pennsylvania Rubber Co., and a man of rare courtesy, once was road salesman for the Winchester Repeating Arms Co. Fred Stone, now famous and wealthy comedian, was his friend. They hunted together.

The Pennsylvania Rubber Co. plant is in Jeannette, Pa., near Pittsburgh. During a recent engagement of Stone in the latter city he acquired very substantial holdings in the company.

Proof of an enduring friendship, and of good business. The company is one of the leaders.

* * *

6,000,000 Goodyears in Year.

At the beginning of the 1918-1919 fiscal year the factory of The Goodyear Tire & Rubber Co., Akron, Ohio, was asked to produce 6,000,000 automobile tires during the year. Actually the Goodyear production for the year will run about 6,250,000 tires, and even this prodigious number is not large enough to fill the present demand.

NO FEATURE that makes for smartness in motor cars has been overlooked in the designing and building of this new creation—America's First Standard Custom Built Motor Car—the

LEACH

"Power-plus Six"

It is a car that appeals to the owner because it is not only smart in appearance, but it embodies the very best that the world of Automobile Engineers have produced.

There is valuable territory open which will be alloted to live, reliable dealers.

Write for our liberal proposition.

Leach-Biltwell Motor Co.

1035 South Grand

Los Angeles

(32)

Victor Rubber Co. Expands.

The Victor Rubber Co., Springfield, Ohio, is in the midst of an extensive building schedule which is constantly increasing the production of Victor tires. Early in the year of 1919 the first building in the new program was completed. The cord tire department is just now being moved into the second building. Besides this, a large addition is under construction which will house a battery of new vulcanizers. These structures will provide over 25,000 additional feet of floor space and will enable the organization to double the production of Victor tires or "Mileage Hogs," as they have been aptly named by users. All of the structures in the new factory plan are of uniform, hollow tile, entirely fire-proof, light, perfectly ventilated and modern in all respects. For the past several months the plant has been operating at capacity of 23 hours a day with three shifts.

* * *

Stutz Prices Advanced.

The price on all Stutz cars has been advanced $250 per model, effective November 1, 1919, the new prices being as follows: Bearcat, $3250; Roadster, $3250; 4-5 passenger, $3350; 6-7 passenger, $3350.

* * *

New Firestone Mechanical Building.

Permit for the construction of a mechanical building, which is to be the latest addition to the factories of the Firestone Tire & Rubber Co., was issued recently at Akron, and ground has already been broken on a site south of Firestone Plant Number Two. The building will be three stories high and is designed to accommodate the electrical, machine, pipe, carpenter, pattern and tin shops. It will co-ordinate under one roof all the labor of this nature in the various buildings of the big Akron tire factory. The cost of construction is expected to exceed $400,000.

* * *

Officers Named for Cameron Motors.

Officials of the Cameron Motors Corporation who took office November 3 have been announced. Everett S. Cameron, of West Haven, Conn., is president; Leslie W. Holmes, Shelton, Conn., is vice-president and general manager; Pierpont B. Foster, New Haven, Conn., treasurer; Albert C. White, West Haven, Conn., production manager; Harry W. Doherty, New York, director of sales; F. S. Young, Fostoria, O., and V. C. Morris, New York, directors, the board of directors consisting of the seven men named.

* * *

Neverfail Succeeds Flechter.

The Neverfail Carburetor Co. has succeeded the L. V. Flechter Co., of Long Island City, N. Y. Exclusive sales rights in this country and abroad, excepting the metropolitan district of New York City, are now held by the Frank M. Eldredge Co., of Detroit. J. Herbert Ballantine is president of the new company; John Ballantine, vice-president and general manager; J. B. Kirkpatrick, treasurer, and S. Asch, secretary.

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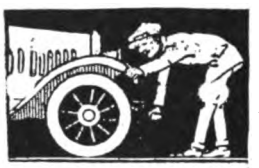
"Do You Still Crank Your Ford?"

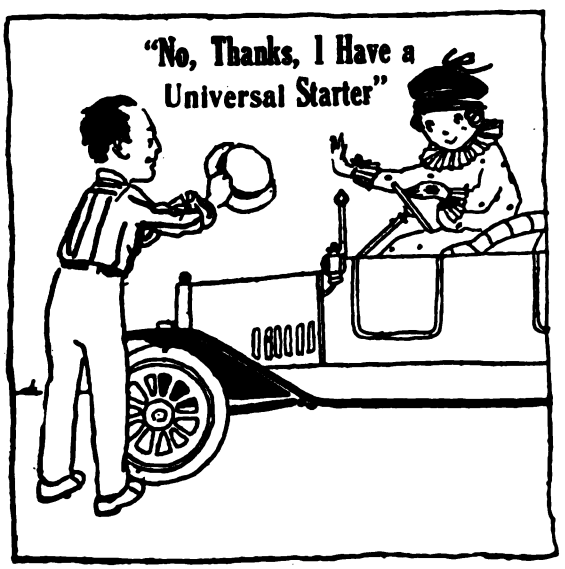
—Do you still wade 'round in the mud on rainy days to get your car started?

—If you stop for a moment and kill your engine, do you still have to get out and wind her up?

—Do you think it necessary to be a slave to the crank?

"Whew, Wish I Had One!"





Thousands of Others Have Quit—Why Not You?

Thousands of other Ford owners have ended their cranking careers; they now step into their cars, **USE THE UNIVERSAL STARTER** and are away in less time than it now takes you to pull the priming wire on your Ford, and they don't run the risk of a broken arm or a sprained wrist.

Can Be Installed in 30 Minutes

Installation harmless to your car. Made of drop forged steel, and not a penny of upkeep in sight. A child can operate it in perfect safety. Back-firing can neither harm driver nor starter, protected by our automatic release.

"NEW UNIVERSAL STARTER"

Guaranteed for the Life of Your Car

$29.50

Including Foot Primer and Hot Shot Battery

Sold on a Positive Money-Back Guarantee

Guaranteed to work perfectly as long as your Ford will run. This guarantees the whole starter or any part of it. It's sold on a money-back trial. If it is not perfectly satisfactory we'll take it off your car and refund the purchase price. We know that's a strong guarantee, but also know that the Universal is perfect. Every part of it drop forged steel, and experience has proved that it will withstand the most severe abuse. It's absolutely fool-proof. Don't confuse the "Universal Starter" with others you have seen for sale. This is its first appearance in your territory. You must see it demonstrated to appreciate it. At the price this starter is offered you can within a short while save the cost of Universal Starter in gasoline and oil wasted in letting your engine run. Guaranteed to start any FORD that will crank. Demonstration stores are now located in most of the important cities in the United States and the territory in most of the States has already been sold. Counties in your territory may be closed any day. ACT NOW.

Live Agents Wanted!

Be Our Agent—Make Good Money Selling Our Universal Starter

The Universal sells itself. If you want a proposition that will bring unusually big returns for a nominal investment, write or wire, and preferably see us NOW for agency in your city, county or section. Some choice territory still open in Canada, U. S. and Mexico.

Universal Starter Company

Toronto :: Canada

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High-Grade Men With White-Howard.

Associated with D. McCall White and E. C. Howard, who recently took possession of a large modern plant in Indianapolis for the production of a new passenger car, are several men of long experience and high standing in the automobile industry.

M. J. Moore is treasurer of the company; he was formerly connected with the Northway Motors Co.; was comptroller for the Chevrolet, and served as a captain in the Motor Transport Corps. D. C. Selheimer, works manager, also comes recently from the Motor Transport Corps; he served for twenty months as a major in charge of motor vehicle maintenance; before the war he was with the Packard Motor Car Co., and later the Houk Wire Wheel Co.

J. W. Applin is chief engineer; G. B. Spreng, purchasing agent; Leo N. Burnett, advertising manager; J. B. Robertson, works manager; L. A. Menges, chief draftsman, and W. A. Houser, head of the technical division of the sales department.

* * *

New Agency to Handle Motor Accts.

Harry S. Buzby, who for twelve years was connected with the staff of the Chilton Co., and W. Cortez Raughley, former automobile manager of the Philadelphia Public Ledger and for the past five years connected with the Fletcher Co., have formed a partnership under the name of the Buzby-Raughley Co. On account of this long experience in national automobile advertising, their efforts will be confined chiefly to this industry.

* * *

Outlook Co. Has New York Office.

The Outlook Co., Cleveland, O., makers of Outlook Windshield Cleaners, Outlook Rubber Patch and Outlook Luster, has established a sales office at 250 West 54th St., New York City. Besides looking after the company's Eastern sales, this branch will also look after its growing export business throughout the world.

A. E. SHELLY,
Assistant Sales Manager Selden Truck Corporation, Syracuse, N. Y.

Shelly Joins Selden.

Announcement is made by H. T. Boulden, vice-president of the Selden Truck Corporation in charge of sales and advertising, to the effect that E. A. Shelly, formerly in charge of sales promotion work of a well-known Eastern truck manufacturer is now associated with the Selden Company. Mr. Shelly will be connected with the home office organization in Rochester as assistant sales manager succeeding C. E. Williams, who will take up a new line of work in Syracuse, N. Y.

* * *

McClune Now With Packard.

Lieut.-Col. Charles B. McClure, commander of the Army motor truck team that made the trip from Washington to the Pacific Coast last summer, has recently joined the staff of Packard Motor Car Co.

Build Trailers and Passenger Cars.

At a special meeting of the stockholders of the Ohio Trailer Co., held in Cleveland October 1, it was unanimously decided to change the name of the company to the Ohio Motor Vehicle Co., and to increase the authorized capital from $300,000 to $1,000,000. Under the same management and directorate responsible for the success of the Ohio Trailer Co., the new company will not only continue the production of Ohio trailers, but will also build an unusually high class, six-cylinder passenger car. Contracts already have been placed with the leading automotive material manufacturers on a basis of 1000 cars to be built the first eight months of 1920 and a definite production schedule will be well under way on or before the first of the year.

* * *

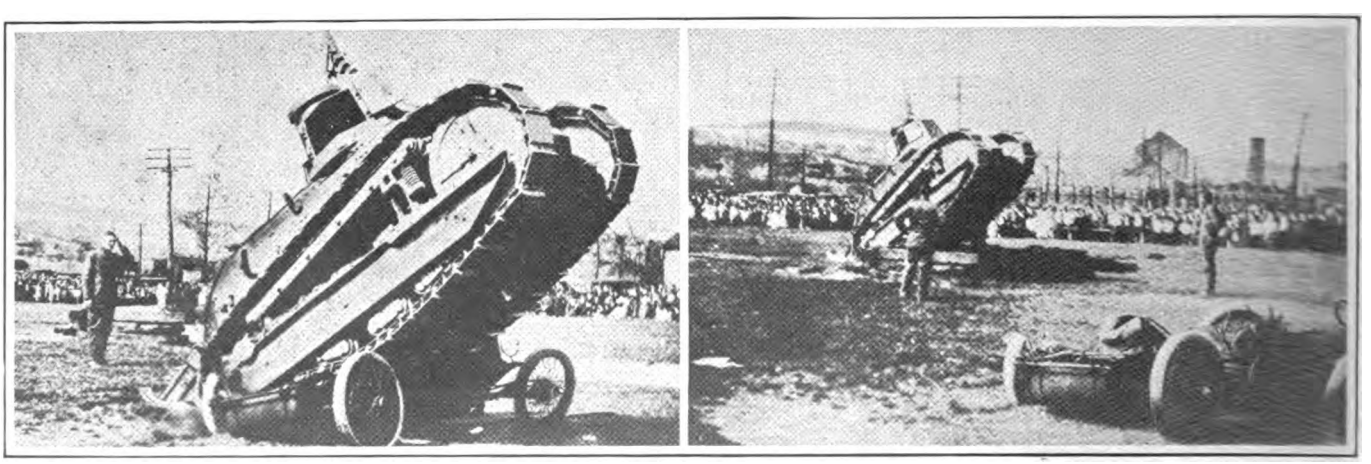
Goodyear Workers Stockholders.

The Goodyear Tire & Rubber Co. has the largest number of employee stockholders of any concern in the automotive world. In the recent two-weeks campaign in which Goodyear employees were given opportunity to subscribe to the $40,000,000 preferred stock issue of the company, 17,101 workers subscribed to a total of $7,364,700 worth of stock. Sixty-six per cent of the 20,000 employees are holders of this issue. Workers subscribed to an average of five shares each.

* * *

M. & A. M. Has Field Secretary.

Because of the rapidly expanding work of the Motor and Accessory Manufacturers Association, it has been found necessary to appoint a field secretary to travel about the country and keep in direct personal touch with the various members. M. L. Heminway, general manager of the association, has announced that Alexander W. Barber, formerly connected with the credit department of the Irving National Bank of New York City has been selected for this important work. Mr. Barber has already started on his first Western trip.



WIRE WHEELS DEFY AN ARMY TANK, SUPPORTING 6½ TONS DEAD WEIGHT WITHOUT COLLAPSING.

During the Victory Loan drive at Latrobe, Pa., an army tank was brought into play to stimulate bond sales. To demonstrate the tractive power of this instrument of modern warfare, various stunts were shown. The big stunt of the day was the demolition of an automobile in its path. It so happened that this car was equipped with wire wheels. And these wire wheels were the only part of the car that survived the encounter. The left rear wheel was ground in two by the left track of the tank, but even with this handicap the radial pressure of 6½ tons dead weight did not cause the wheels to collapse.

In going over obstacles a certain amount of driving skill is essential. When the tank gets on the top of the obstacle or at its apex, the track is moving very slowly so as to balance the entire tank weight. It is then eased forward carefully until the forward parts of the tracks are lowered to the ground. It was during this interval that these wire wheels supported the entire six and one half tons of dead weight. The illustration at the right shows the wreck of the car after the encounter. The wheels, with the exception of the one ground in half, are in good condition.

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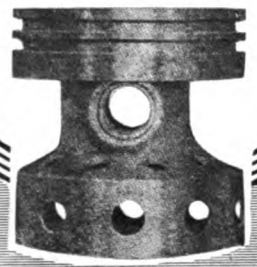
ZEPHYR PISTONS

(PAT.)



DURABILITY POWER SPEED ECONOMY

ZEPHYR pistons hold many records of world interest since 1910 when they established world's record of 100 miles per hour for three consecutive hours.

ZEPHYR pistons were used in the Atlantic flight by Alcock-Brown, also in the R34 in its 6,000 mile flight from England to America and back.

The World's Best Piston Since 1910

The Wridgway Company Inc.

HALLSTEAD, PENNA.

Send for Booklet

DURABILITY POWER SPEED ECONOMY

U.S.PATENT 975301

ENDS YOUR TIRE TROUBLES FOREVER

It brings new happiness and releases you from the horrors of expected tire trouble. Think of the joy of riding along without the eternal fear of a puncture or blow-out.—Think of getting 10,000 to 20,000 miles out of every tire—no vulcanizing, no patching, no repairing of any kind—just real good old pleasure riding. Do away with your inner-tube and the many troubles caused by its use forever by installing in your tires this wonderful and economical

NATIONAL RUBBER TIREFILLER

This marvelous substitute for air is being used by thousands and thousands of satisfied car owners all over the United States and many foreign countries. We have been selling it for more than seven years—We sold over 35,000 sets last year. It is a wonderful big success with years of actual service record back of it.

This Tire filler is made of the best grade of rubber cut in small particles, treated, molded and vulcanized by our special steam process, in sizes to fit all standard makes of tires. It is laid in your tires and not melted and poured in—It gives the same pressure as the well inflated air-filled tire and has all its good riding qualities with none of its faults—Can be transferred from one tire to another—Will not freeze, melt or harden—is not affected by climate conditions—fully guaranteed against deterioration in any form.

Don't let prejudice stand in your way. Good business judgment demands that you at least make a careful investigation. Let us send you full information, sample and prices. DEALERS—We have a fine proposition for you.

National Rubber Filler Co.

224 College St. MIDLOTHIAN, TEXAS

PACIFIC COAST OFFICE

National Rubber Tire Filler Co.

2315 California St. San Francisco, Cal.

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New Things in the Accessories Field

THE PRESTO-FELT—A NEW WINDSHIELD CLEANER.

An entirely new type of windshield cleaner is being made by the Presto-Felt Mfg. Co., Toledo, O., and is called "The Presto-Felt Windshield Cleaner." It is made with two chemically treated felt pads which are pressed against either side of the windshield by means of oil tempered, spring steel holders. These spring

PRESTO-FELT WINDSHIELD CLEANER.

holders insure uniform tension, prevent rattling and keep the cleaner from dropping down in the line of vision.

As the windshield becomes thoroughly wet in a rain, the cleaner, with its chemically treated pads, is swung back and forth across the glass three or four times until the action of the water causes the chemical to flow. Then, as the felt pads wipe the water off the glass, they also deposit a very thin film of the chemical on the face of the glass, as a result of which the water does not stick to the glass and form in "beads," as it ordinarily does. Instead, as soon as the rain strikes a "Presto-Felted" windshield the drops of water flatten out, leaving a clean, "flat," transparent surface through which the driver can distinctly see the road.

One cleaning with a Presto-Felt Windshield Cleaner is quite sufficient during any storm. Another important point is that it cleans both sides of the glass at the same time, thus preventing dust or steam from gathering on the inside of the windshield, particularly as with a closed car.

The Presto-Felt Windshield Cleaner is made in one model only, yet is so designed that it fits any and all types of windshields. It can be attached in either of three ways—clamping over the top of the windshield frame, bolted through the frame or bolted directly through the glass. All necessary parts are furnished with each cleaner for attaching in either of the three ways. Price complete, $2 each.

A MARATHON FOR THE DEALER.

A marathon, moderly described, is "some run." The tire dealer certainly is getting a run for his money in the new advertising policy of the Marathon Tire & Rubber Co., Cuyahoga Falls, O. In an expensive black, heavy-leaved 11x14 portfolio, containing a series of brief, crisply worded pasted-in advertisements, the company's message to the dealer is delivered with which might be termed magnificent simplicity. It's all over in a minute of reading; but it and the ads can profitably be read many times.

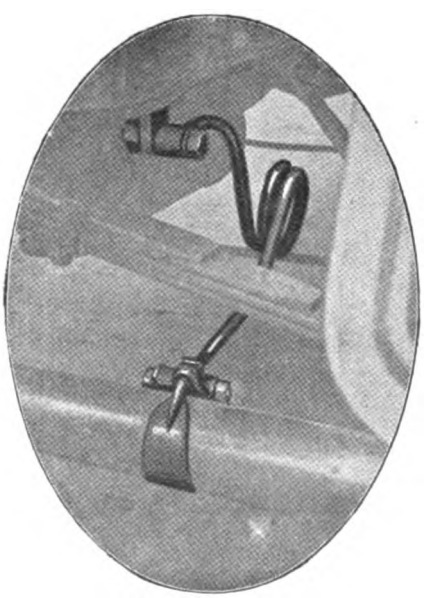
For the first time in the history of the tire industry, the message runs, appears an advertising campaign devoted entirely to the dealer's interests. It is a campaign to sell the dealer, not to sell the tire. That is left to him. Confidence in him is expressed in the headline. Then follow not more than four or five very brief paragraphs. At the bottom is a Marathon tire, on its side, with a wingless Mercury speeding around on its resilient carcass.

The portfolio is enclosed in an envelope, also black. The title on the cover page is "Building 'Good Will' for YOU." A chaste, convincing, tasteful piece of publicity.

TRI-CO SHOCK ABSORBER ELIMINATES SIDE SWAY.

The Tri-Co Shock Absorber for Ford cars and trucks consists of a vertical coil spring, with an upper bracket for attaching it to the car frame and a lower clip hanger giving a friction fit, either to the rear housing or the front axle.

The general design is very simple and reliably acting. It prevents the up-throw and down-throw of the car, connecting the running gear and body directly with a



TRI-CO SHOCK ABSORBER

flexible connection. Side sway is prevented, allowing the car to hold the road at much greater speed than is ordinarily possible. The complete set, front and rear, sells at $15.

NEW YORK SHOW NUMBER, JAN. 1. CHICAGO SHOW NUMBER, JAN. 15.

HINDVIEW MIRROR FOR CLOSED CARS.

Drivers who equip their cars with mirrors giving a view of the road behind are undoubtedly playing the part of good citizens in cutting down the number of traffic accidents occurring on the streets of every city. With wet weather approaching and closed cars certain to be more numerous than ever before, the Kales Stamping Co.,

STYLE B HINDVIEW MIRROR, FOR INSIDE OF CLOSED-BODY CARS.

of 441-61 W. Lafayette Blvd., Detroit, Mich., is producing the Style B, Hindview Auto Mirror, designed especially for closed cars.

This mirror, instead of being on the side of the car, is attached inside by wood screws to the roof or frame of the front window. The driver is enabled thus to see through the rear window the traffic approaching from behind. The Style B has a ball joint and is furnished in all standard finishes. Due to the limitation of view through the rear window the manufacturers recommend the lens mirror.

TRIUMPHS FOR DIXON LUBRICANTS.

There is significance in the predominance of Dixon's lubricants among the most successful automobile racing drivers. Two world's records and a long list of firsts won in 1919 dangle from the Dixon belt. Gaston Chevrolet made the two records—a 100-mile derby in 54:17.8, at Sheepshead Bay, and later in the season, 150 miles in 1:22:34 1/5. Milton, Louis Chevrolet and Mulford finished, one, two three in Uniontown, May 17. Thirty-four out of the 37 entrants in the 500-mile sweepstakes at Indianapolis, and seven of the first ten to finish, used Dixon's lubricants throughout, the other three using Dixon's motor graphite. All winners in the International Sweeptakes at Sheepshead Bay, June 14, were Dixon-lubricated. So it was in the national road race at Elgin, with Milton, Sarles, Schillo and Vail, one, two, three, four. At Uniontown, September 1, it was Boyer, Sarles, Louis Chevrolet and Mulford, three of whom made the 225 miles nonstop, a remarkable lubrication record.

The final Dixon triumph was in the 250-mile world's series sweepstakes in Cincinnati, October 12, when Joe Boyer's Frontenac was first, at 101.69 miles per hour, with Kelin, Hitkie and Dave Lewis in the next three places.

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PORTAGE TIRES

Absolute Satisfaction

CORD AND FABRIC

Not the Cheapest in Price, but the Best in Service

FACTORY BRANCHES

745 Mission Street
San Francisco, Cal.

410 West Pico Street
Los Angeles, Cal.

Use Motor West

¶ Every Eastern automobile or accessory manufacturer can help his Pacific Coast representative increase his sales by a liberal use of the advertising columns of MOTOR WEST.

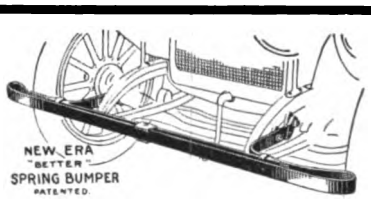
¶ Coast dealers and factory representatives should insist on the factory folks giving them the same advertising support in "The Motoring Authority of the Pacific Coast" as is accorded the Eastern and Middle Western dealers and representatives in the motor trade journals published in those sections. Otherwise the dealers and representatives here, who pay their proportionate share of the expense of advertising in the Eastern and Middle Western journals (and incidentally receiving very little benefit from it) are paying for something they do not get.

THINK IT OVER!

"Better" Spring Bumpers

New Era

Firmly



Resilient

NEW ERA "Better" Spring Bumpers with their trade name *"Better"* have from their introduction 3 years ago, been accepted as *"Better"* by both dealers and car owners. They attach by means of hook-on arms to all makes of cars on the fronts and some rears. These attachment arms are exchanged FREE (excepting shipping charges to and from factory), which eliminates DEAD Bumper Stock. Double bars of tempered spring steel, tied in center with 3-inch reinforcing plate, attach to cars on semi-tempered arms, protecting both car and occupants as no insurance EVER COULD DO. PREVENT ACCIDENT. That's the important feature.

Write for 1920 Condensed Catalog, and dealers' proposition, on NEW ERA *"Better"* Motor Requisites.

New Era Spring & Specialty Co.

1190 Hamilton Ave. Grand Rapids, Mich.

New Era

"Better" Car Insurance

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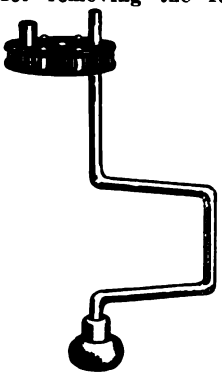
SPECIAL WRENCH FOR FORD CONNECTING ROD NUTS.

A specially designed geared offset wrench for removing the fourth connecting rod nut of a Ford motor has recently been placed on the market by the Sawyer Sales Co., 577 Terminal Bldg., Lincoln, Neb. The Universal Offset Speed Wrench for Ford motors is made of steel, having three cut spur gears, machined, hand-forged sockets and heavy brace. The offset is 4¾ inches long, having 3 inches distance between the socket and brace rod. This allows ample distance to place the wrench in the crank case and have the socket fit up directly on the nut of the fourth connecting rod. The upper projection of the brace serves as a bearing on the crank-shaft and the lower part of the brace takes bearing against the crank-case.



OFFSET SPEED WRENCH FOR FORD MOTORS.

The brace is of one-half inch steel rod made with a 10-inch swing, thereby giving sufficient leverage to remove the tightest nuts. The socket is of special design and removable. The wrench is 17 inches over all and weighs 4 pounds.

MAKES FOR QUICK SERVICE ON FORD PARTS.

The very latest device for saving time and labor in the Ford service station is the Steere Servistock Parts System. More valuable time goes to waste through improper stockroom facilities than from any other operation in the modern service station.

The Steere idea is to have all the parts stored in units numerically arranged following the Ford parts list—each number having a bin by itself. The bins in turn are built in proportion to the size of the part and quantity of parts required for a month's business.

With the Steere Servistock System in use, cheap labor may be employed in the stockroom, because a stock clerk need not know the difference between a stud and bolt, yet if he can read numbers he can fill a stock order.

The units are also arranged to minimize the walking distance in filling an order. For instance, take the filling of a parts order on a rear axle job, which is one of the most common jobs; these parts would come in adjacent units which carry the complete rear axle assembly, and would be located near the shop service window. The units carrying parts for less common jobs are placed correspondingly farther away.

When installing the Steere Servistock System the number of units is determined by the volume of stock required. Standard systems are 11 units, 28 units and 42 units. These units are substantially constructed of a good quality of material; tight joints are a feature. The finish is dado gray with numbers stenciled in black, unless otherwise specified.

The Fairbanks Co., New York City, is merchandising the Steere Servistock System.

MOHAWK WILL MAKE PNEUMATIC TRUCK TIRES.

Sales Manager M. E. Mason announces that the Mohawk Rubber Co., Akron, O., manufacturers of Mohawk tires, will soon place on the market a line of special pneumatic truck tires. Some sizes are already being manufactured and a complete line will be produced as soon as the present increase in factory buildings and equipment is completed.

In the opinion of the Mohawk official, pneumatic tires will be adopted almost universally on trucks up to at least three-ton capacity. The length of the life of a truck is perhaps the greatest factor in determining the cost per ton-mile. Lengthen the life of the average truck by only one year and at one stroke you will cut sometimes as high as 20 per cent off the ton-mile cost. Pneumatic tires lengthen the life of a truck, to say nothing of greatly decreasing the upkeep cost.

VACUUM-FIRE PLUG GIVES HOT SPARK.

The same principle applied in increasing the intensity of the waves in wireless telegraphy is used in the construction of the Vacuum-Fire Spark Plug, a new product of the Penn Mfg. Co., 319 West Ninth St., Kansas City, Mo. By producing a jump-gap spark in a vacuum chamber built into the head of the plug, the intensity of the flame delivered at the firing points is heightened from ten to twelve times. This intensified flame will fire through oil or grease. It also will burn carbon deposits from the point, virtually eliminating skipping and missing, and producing nearly perfect combustion of each charge of gasoline.

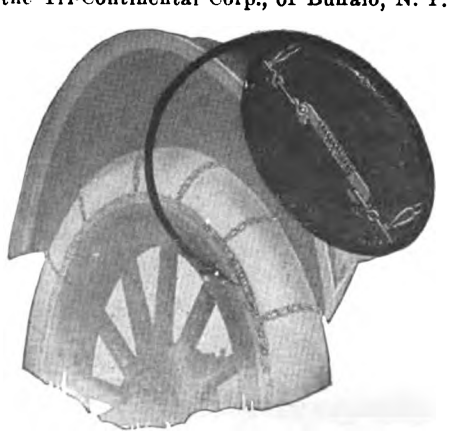
An added feature of the Vacuum-Fire plug is its wide point, which delivers a ribbon-like flame that increases manifold the efficiency of the fire. A distinctive design has been adopted for the plug, setting it out attractively in external appearance from the usual type of spark plug. The Vacuum-Fire plug sells for $1.25. Porcelains, which include the intensifying chamber, sell for 40 cents each.

MOTOR WEST reaches a larger percentage of dealers than any other automobile publication circulated on the PACIFIC COAST.

TRI-CO CHAIN LOCK.

The Tri-Co Universal Chain Lock is claimed to decrease cross chain wear by 50 per cent. Easy of attachment and security are two prominent features. With the Tri-Co Lock it is possible to put on or take off tire chains in a jiffy.

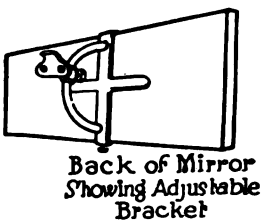
By laying a chain over the tire secure attachment is made easy by compressing the chain lock spring, which gives the stretch needed to pull the chain tight on both sides of the wheel. The Tri-Co Chain Lock sells for $1 and is manufactured by the Tri-Continental Corp., of Buffalo, N. Y.



TRI-CO UNIVERSAL CHAIN LOCK.

"COP-SPOTTER" REAR-SIGHT MIRROR.

Berger & Co., with offices in the Black building, Los Angeles, report very satisfactory sales on their "Cop-Spotter" Rear-Sight Mirror. This style of mirror, while comparatively new to the driver of an automobile, has rapidly sprung into popularity, and the advantages of its use are appealing to all classes of car owners, wherever shown. Its refined appearance and convenient location, attached to the top frame of the windshield, inside of the car instead of on a bracket at one side, are the principal appealing features.



"COP-SPOTTER" MIRROR EASILY ADJUSTED.

The advantage claimed for the "Cop-Spotter" is the exclusive adjustable quadrant, by the use of which a ball and socket joint is done away with, and its light weight, the mirror being only 3 by 7 inches in dimensions, and still performing all the functions of any rear-sight mirror, regardless of size or shape.

A MIRROR BY DAY, A PARKING LIGHT BY NIGHT.

The Ny-El-Co Combination Mirrorscope and Parking Lite provides a mirror for driving by day, and a lamp fitted with 3-inch lenses for the night. It shows white in front and red in rear. At night the red light is a powerful protection to the parked car. The Ny-El-Co device used at night consumes eleven times less electric current per hour than the former parking method of lighting, which is to keep two head or side lights and a rear lamp lit.

When the car is to be parked the hinged mirror, which is in position for day driving, is pulled forward and down. This automatically turns on the current and the lamp is exposed to view and lit simultaneously. The manufacturers of the Ny-El-Co are the New York Electric Lamp Co., of New York City.

GASTINE HAS MANY TESTIMONIALS OF ITS EXCELLENCE.

Thirty per cent more mileage to the gallon of gasoline is the claim back of Gastine and supported by the manufacturer's guarantee. It is sold as a gasoline saver, a carbon destroyer and a power producer. The ingredients composing it are absolutely harmless to the engine and numerous written expressions of satisfaction by Gastine users are testimonials to its worth.

Gastine is sold in concentrated form, 100 tablets in a box, easily dissolved in gasoline. Gasoline bills cut 30 per cent, formation of carbon prevented, easier climbing of hills, faster ignition and greater power are the results of using Gastine, according to the Gastine Co., Bridgeton, N. J.

ELECTRIC VAPORIZER SAVES GAS.

An electric vaporizer, which takes the place of spark plugs and carburetor, was tried out at Rome, N. Y., recently. A stock car of American make made 90 miles on one gallon using the device. Clyde B. White, the inventor, has sold the patent rights to a Buffalo, N. Y., firm for $35,000 cash, $20,000 in stock and a royalty of $500 a month.

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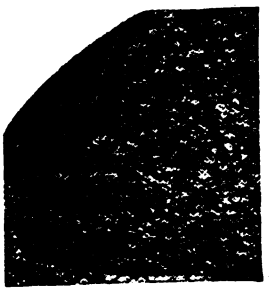
ORDER BY THE NAME

TENAX



The original blue sheet.

An ideal compressed asbestos packing for any joint. Tenax is permanent whether subjected to gas engine exhaust, cylinder explosions, acid, alkali, superheated steam or any other active agent. Can't burn, rot or squeeze out.

The finest packing made for Automobiles, Tractors, Gas Engines and Steam Engines.

Sheets 50 inches square. Thickness 1/32 to ⅛ inch, inclusive. Made also in 1/64 inch thickness, black graphited sheet only.

Pack with Tenax and Forget the Joint Forever.

ADPASCO TREATED GASKET PAPER

A thoroughly waterproof paper toughened and especially treated to make it excellent for all automotive uses except in contact with burning temperature. A big value for general use around garages and shops. Sheets 36 in. by 40 in.

ADPASCO TREATED GASKET PAPER

Write Now for Our New Automotive Supplies Catalog, or ask your Supply House.

ADVANCE PACKING & SUPPLY CO.

17 North Franklin Street, CHICAGO, ILL.

ALLIED INDUSTRIES, Inc., Pacific Coast Representatives

283 Minna St., San Francisco, Calif.
340 Azusa St., Los Angeles, Calif.
1252 First Ave. So., Seattle, Wash.

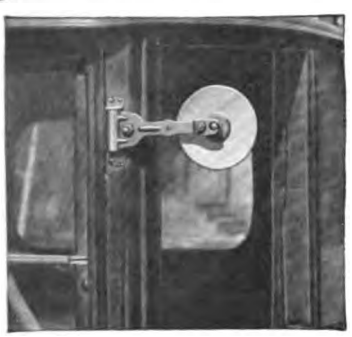
To Passenger Car Manufacturers—

Established dealer desires to add to his present line the Northern California representation of a well known make of car. Has large, modern quarters and is now erecting an addition to accommodate the increased business which will follow the taking on of the new car.

Wire or mail your proposition immediately to

DEALER
care Elliott-Pabst Advg Co.
924 Chronicle Bldg.
San Francisco, Cal.

Hindview Auto Mirrors



STYLE "C"

Hindview

FOR OUTSIDE OF CLOSED-BODY CARS.

Style "C" is fastened by wood screws to outside of Closed Body Cars, such as the Coupe, Cabriolet, Sedan or Limousine.

Has ball joint and is furnished in all standard finishes with plain or lens plate glass mirror.

Send for Folder No. 19 describing the entire line.

A. E. MOHRIG, 340 Phelan Bldg., San Francisco, Cal.
Pacific Coast Representative

Kales Stamping Company

444 West Lafayette Blvd. DETROIT, MICH.

See our Exhibit at the New York and Chicago Passenger Car Shows.

PIERCE GOVERNORS

Just as Important as Steel Springs or Rubber Tires

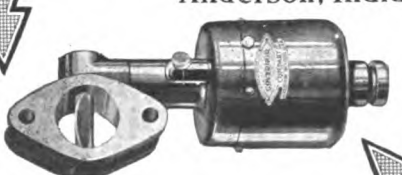
The purpose of springs, rubber tires and governors is to avoid vibration—the most destructive elements known in mechanics.

Fast driving of trucks, with their stiff springs and solid tires, is just as disastrous as driving at the proper speed without springs or tires. Furthermore, speeding is the cause of 76 per cent of all truck accidents.

Pierce Governors positively stop this abuse, increasing the life and efficiency of any truck and cutting maintenance costs in half.

That's only ONE of the reasons why 99 truck manufacturers have made Pierce Governors standard equipment.

The Pierce Governor Company
Anderson, Indiana



World's Largest Governor Builders

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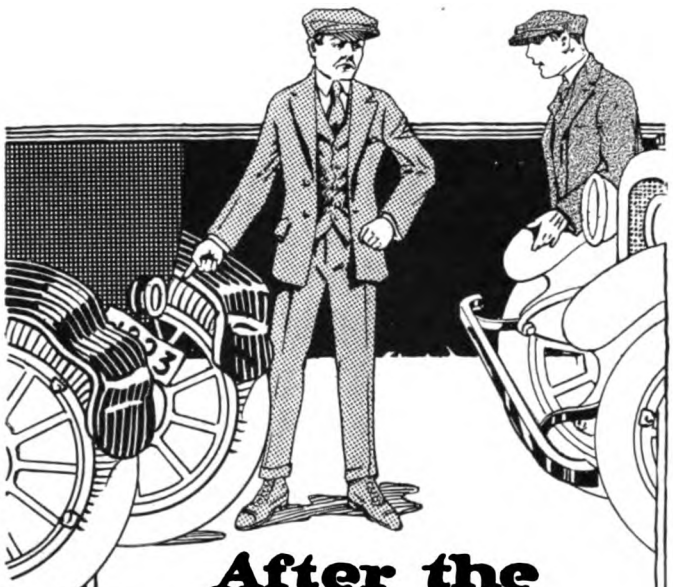

After the Collision

the man who talks the loudest is the one who didn't have bumpers on his car. And when he's through arguing—it is his turn to visit the repair shop.

More motorists than ever before are equipping their cars with front and rear bumpers. Are you getting your share of this business?

Gemco MILWAUKEE

Collision-Proof BUMPERS

—curved steel springs make even the severe blows harmless to car and bumper. Easily attached—never rattle.

Gemco Spring Channel Bumpers

Fits standard cars front and rear. Combines neatness of Channel Bar with efficiency of Curved Spring Brackets.

JEM COE THE COP, SAYS:

"Two bumpers are cheaper than one repair bill. That's why wise motorists have both front and rear of their cars protected from collision damage."

Gemco Spring Bumpers

The most efficient of all bumpers. A full spring type that fits standard cars, front and rear.

GEMCO FENDER PAN BUMPER

An enclosed spring type for front and rear of standard cars. Readily attached without interfering with splash pans or fenders. Diamond or channel bar.

These new Gemco Spring Bumpers appeal instantly to the motorist. Dealers will find them the best sellers on the market. ARE YOU STOCKED? If not ask your jobber or write direct to us.

GEMCO MFG. CO.

725 SOUTH PIERCE ST.

MILWAUKEE WIS.

Seattle, Wash.—The Master Electric Co. has succeeded the Leone Dual Lighting Co.; it will handle Permalife batteries and Master carburetors.—The Hawks-Franklin Co. has opened at 1930 Westlake St. to handle high-grade accessory lines.—The Service Truck Co. of Washington has located in temporary quarters at 102 Taylor St.

Brawley, Cal.—The Valley Garage has taken the agency for Paige cars.

Santa Ana, Cal.—Miller & Monkhouse have taken the Transport truck agency.—Bickford & Bedford have become Mitchell car dealers.

Anaheim, Cal.—George Goodrum now has the Buick agency here.

Hemet, Cal.—M. C. Maddox is now authorized Ford and Fordson tractor dealer.—W. A. Swanguen has taken the Studebaker car agency.

Artesia, Cal.—Garrison & Ealey have bought the Artesia Garage.

Covina, Cal.—Harry R. Webber has bought control of the Covina Garage.

Montebello, Cal.—The Ellis Garage has been sold to G. A. Ashby.

Pomona, Cal.—A. Page has opened an automobile top and cushion shop on South Main St.

Chino, Cal.—The Mission Garage has been bought by Dodd Dwyer, A. H. Marsh and J. M. Drake, and has been changed in name to the Maple Leaf Garage.

Ontario, Cal.—McCarter & Thrall, Exide battery agents, have moved into their new quarters on East A St.—Jones & Hill have bought the Ontario Motor Car Co.; they are dealers for Studebaker cars and Republic trucks.—Loebs & Nagle have opened a Cleveland tractor agency on West A St.

Chula Vista, Cal.—Arthur Heyer has bought the National Garage from L. A. Wiesser.

Hollywood, Cal.—Banning & Forester, Prestolite agents here, are having a new garage built for them on Hollywood Blvd.

Sanger, Cal.—G. M. Allred has bought a half interest in the Kershaw Garage.

Hollister, Cal.—E. C. Gilbert, Studebaker agent, will locate in a new building to be erected on San Benito St.

Exeter, Cal.—The Samson Tractor & Implement Co. has been changed to the Tractor & Implement Co. of Tulare County.

Turlock, Cal.—H. J. Vannier has sold the Turlock Vulcanizing Works to J. E. Smith and Amos Gilliland.

Lindsay, Cal.—The Strathmore Garage has been bought by Clarence and Clyde Loring from W. M. Wilt.

Fresno, Cal.—The Spears-Bourst Auto Co., of Coalinga, will lease a $25,000 building to be erected on Van Ness Ave. here.—H. V. Jacques has opened a repair shop on N St., specializing on Chevrolet and Scripps-Booth cars.

Lodi, Cal.—The Tourist Garage has been bought by C. L. Peck, Clyde DeWitt and J. L. Peck.

Hanford, Cal.—J. S. Fuller has bought full control of the N. F. Vulcanizing Works from his retiring partner, W. E. Nash.

Sonora, Cal.—H. Saro and L. Bacigalupi have bought the Central Garage.

Sacramento, Cal.—Don Lee, Cadillac dealer, has bought ground here at Twelfth and H Sts., whereon he will erect fine new quarters, fronting 160 feet on Twelfth St. and accommodating all phases of Cadillac sales and service.

Spokane, Wash.—Two-thirds interest in the Retread Shop on First Ave., one of the largest in the Northwest, has been bought by Jack and Bill Mulligan, former football stars; Walter S. Melcher retains a one-third interest.—Ahrens & Ahrens, Stephens car dealers, have moved into their new building at Second and Lincoln Sts.—The Los Angeles Auto Paint Shop, owned by C. J. Santee & Co., has been opened at S401 Sherman St.—Racine tires will be handled in Eastern Washington by a branch opened here, in charge of D. D. Hull, by Ballou & Wright, Pacific Northwest distributors, W923 Sprague Ave.

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DE LUXE WINDSHIELD

"THE LAST WORD IN CAR COMFORT"

Protects Occupants from Wind and Dust and Adds Distinction to the Car.

De Luxe Has Extra Adjustment for Setting Shields to Create a Breeze in Hot Weather and Ventilate Car.

Only Shield Clearing Side Curtains.

Cast brass parts (non-rusting), finest nickel and black enamel, best windshield glass, two adjustments instead of one, designs to fit your car. BEST. NOT CHEAPEST. Installed in 5 minutes

PRICE $25.00

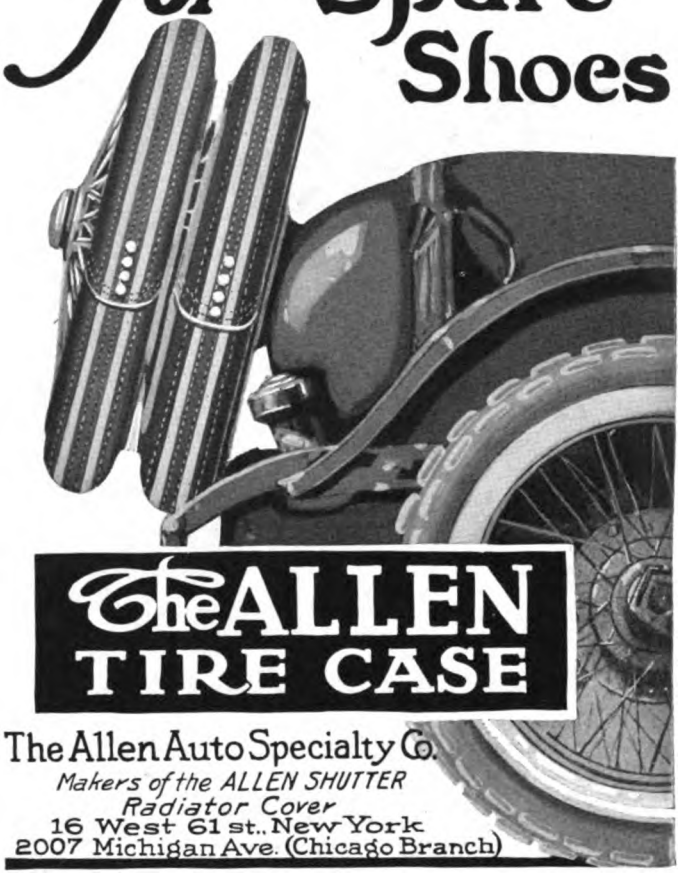
For Sale at All Dealers and Supply Houses.

DE LUXE WINDSHIELD CO.

341 LARKIN ST. MFRS. SAN FRANCISCO, CAL.

Mail orders promptly filled.

for Spare Shoes



The ALLEN TIRE CASE

The Allen Auto Specialty Co.

Makers of the ALLEN SHUTTER Radiator Cover

16 West 61 st.. New York

2007 Michigan Ave. (Chicago Branch)

Jobbers *and* Dealers

Make Bigger Profits

handling Durham's DUR-A-BUL Wire Knit Blow-Out Patch. This dependable necessity sells easily and brings a sure repeat business. This means quick turnovers and bigger profits for *you*.

Durham's DUR-A-BUL Patch is "strong as a bull." Will not stretch like ordinary patches because of patented knit steel wire construction. The motorist supplied with Durham's DUR-A-BUL *knows* he'll get in —from almost any distance, no matter how bad the blow-out.

Unusual strength, durability and dependability assure you of satisfied customers—and they're what keeps your business booming.

Judge for yourself—write today for sample patch and our sales proposition.

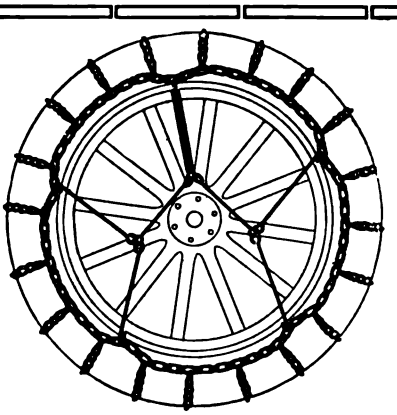
DURHAM MANUFACTURING CO.

Dept. F. :: Kansas City, Mo.

Pacific Coast Distributors

U. S. Manufacturers Sales Co.

Portland, Oregon



The Fastest Selling All-Year Accessory a Dealer Can Handle

Small investment — Good profit — Takes up little room — Every motorist needs them — And has no excuse for being without them at this price.

MERCHANT'S ANTI-SKID CHAIN TIGHTENER

$1.00 A PAIR

If dealer does not handle, sold direct prepaid on receipt of price

Simple and easy to attach. You can slip it on a customer's car in about one minute, and it means a sale every time.

The Tightener catches the chain at five points, giving an easy tension all around. It holds the chain in place, prevents dragging or rattling, and yet permits the chain to creep on the tire, and carry out to the full its non-skid action. Keeps chain from pounding the fender, and prevents it from unhooking.

JOBBERS AND DEALERS:—Write at once for full particulars and generous terms, for now is the time to sell these things.

M. H. Merchant Corporation

236-238 Emma Street, Syracuse, N. Y.

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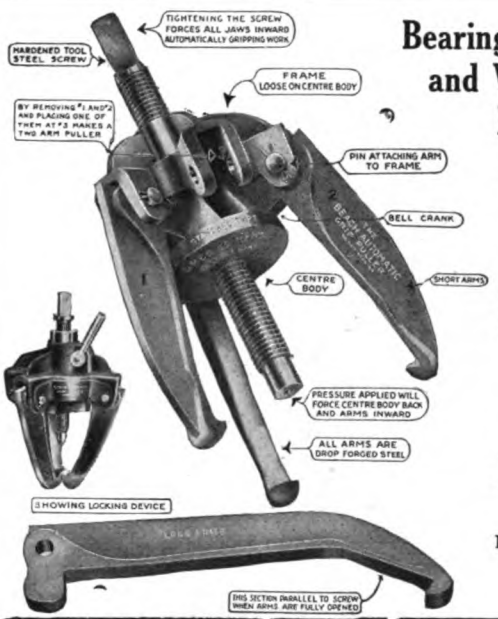

Bearing, Gear and Wheel Pulling Made Easy

by using the latest and best made tools.

No tool will help a repair-man more than the

GREB AUTOMATIC GRIP PULLER

BEACH PATENT

It has a positive grip, can be locked in any desired position, cannot unhook, and adjusts to work instantly.

TEN DAYS' TRIAL. If your dealer or jobber does not have them, we will send you one. Try it for ten days. If not satisfactory, return it to us and we will refund your money.

JOBBERS AND DEALERS: Get our Proposition. We also make the Greb RimTool, Greb Auto Lock and Greblox Solder Cement.

THE GREB CO.

227 State St., Boston, Mass.

10 DAYS TRIAL

Lane's H.-C. Auto Jack

Is placed on handle and pushed under car

Placed, Operated, Reversed, Withdrawn *All from the handle end*

Folds in middle for stowing away. Thousands in use Absolutely guaranteed.

LANE BROS. CO.

MANSION ST.

Poughkeepsie, N. Y.

BALL BEARINGS REGROUND

Immediate exchange on all sizes and types.

Distributors Hess-Bright New Bearings.

Ahlberg Bearing Company

325 W. Pico St., Los Angeles, Cal.

Portland, Ore. San Francisco

San Francisco, Cal.—Louis R. Lurie will have a $40,000 automobile sales building erected for him at Clay St. and Van Ness Ave.—The F. W. Gould Co. will have erected for it a two-story building at Sutter and Gough Sts.—T. H. Elkington, Northern California distributor for Miller carburetors, has moved into his new quarters on Post St.

Oakland, Cal.—The Columbia Six agency here has been taken by Jack Welch, well-known boxing referee, and E. R. Patterson, forming the Welch-Patterson Motor Co.

Santa Cruz, Cal.—F. W. Poyns has taken the agency for Reo and Dort cars.

Watsonville, Cal.—The Appleton Motor Co., E. C. Learock, general manager, will have a business erected here for it; the company will handle several lines of cars and operate a garage.

Los Banos, Cal.—James E. Kunns has bought a half interest in the West Side Garage.

San Jose, Cal.—The W. O. Finke Co. has opened sales quarters on South First St. for the Twin City tractor, Atterbury truck and Grant Six car.

Bakersfield, Cal.—The Independent Garage on Baker St. has been taken over by Alden Bartlett as sole owner.

Santa Barbara, Cal.—The Peteler Motor Car Co. has let contract for a $20,000 garage.

Salinas, Cal.—James F. Eaton has taken the Doak Plowman tractor agency for Monterey county.

Porterville, Cal.—The Baker-Roberts Agency, handling Kelly-Springfield tires, has succeeded the Wymore-Hengen Agency.

Selma, Cal.—Peak's Garage is now Bethlehem truck agency.

Kerman, Cal.—A $15,000 garage will be built for E. F. Huggins of the Plaza Garage.

Stockton, Cal.—D. N. Cantrell has bought the interest of his partner in the Murphy-Cantrell Co.

Visalia, Cal.—The Seabright-Hesse Motor Co., Cadillac and Nash dealers, is having a new $50,000 garage and sales building erected for it on Locust St.

Hollister, Cal.—The American Six car agency has been taken by Mrs. Hazel Winfeldt.

Albany, Ore.—The Highway Garage has been moved by its owners, A. J. Rousseau, Elmer Archibald and E. F. Anderson, into their new two-story building, said to be one of the finest garages in the state.

Dallas, Ore.—P. A. Trafzer has bought the interest of his partner, L. O. Reynolds, and has formed the new partnership of Trafzer & Kinne.

Portland, Ore.—The City Hall Garage has been opened here by Joseph Groeger, backed by local capital, in a fine new two-story building, with 20,000 square feet of floor space, at Fourth and Jefferson Sts.

Oregon City, Ore.—The Clackamas County Tractor & Auto Co. has taken the Bethlehem truck agency.

Roseburg, Ore.—John C. Signor has become a Bethlehem truck dealer.

Raymond, Wash.—The Raymond Garage Co. is having a new concrete garage erected for it, containing 10,500 square feet of floor space.

Chehalis, Wash.—The Southwest Washington Auto Co. has been incorporated for $15,000 by A. A. Hull, P. J. Kortz and F. I. Kirchmaster.

Mesa, Ariz.—The Mesa Motor Sales Co. has been incorporated for $150,000; Max Todt is manager.

Prescott, Ariz.—The Chalmers Garage has been taken over by M. M. Emmett and G. B. McClelland.

Richfield, Utah.—L. L. Gilpin has sold his entire automobile accessory and hardware business to Dastrup & Johnson.

Ely, Nev.—George Doyle, manager of the Lincoln Highway Garage Co., the oldest incorporated garage in the state, has bought the Ely Motor Car Co., the second largest in Nevada.

Winnemucca, Nev.—The Bethlehem truck agency has been taken by Stanley Chapman.

Shoshone, Wyo.—The Wyoming Service Garage has been bought by George L. Thompson from A. M. Clark.

Roswell, N. M.—Donald Dye has sold his interest in the Court House Garage to H. R. Andrew.

Bellingham, Wash.—The Liberty Garage will have a new $10,000 garage built for it on Dock St.

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BALL BEARINGS REGROUND

Large stock of all standard sizes on hand for immediate exchange.

Special Bearings Made to Order.
Factory Distributors for New
FAFNIR BALL BEARINGS
BOWER ROLLER BEARINGS

PACIFIC BALL BEARING CO.
415 West Pico Street Los Angeles, Cal.

PARAB-O-LIGHT
"The Lens That's Right"

The J. D. French Company
30-32 Davis Street
Pacific Coast Distributor

Manufactured by
THE ZORGER LENS COMPANY
CHAMPAIGN, ILL.

The Motor Truck bought to-day without Electric Starting and Lighting will be out-of date to-morrow

BETHLEHEM
Internal Gear Drive
MOTOR TRUCKS
Dependable Delivery
BETHLEHEM MOTORS CORP'N. ALLENTOWN, PA.

The Motor Truck bought to-day without Electric Starting and Lighting will be out-of date to-morrow

1½ tons · 2½ tons · 3½ tons

FYRAC
SPARK PLUGS

Ask your dealer about Fyrac Spark Plugs. He will tell you that it is the plug with *"one inch of firing surface;"* that it is durable and efficient. It is a spark plug that is made and tested to give you the maximum spark plug service.

NATIONAL SPARK PLUG CO., *Rockford, Ill.*
Export Dept.: 336 Whitehall Bldg., New York City, U. S. A.
Canadian Office: McKinnon Bldg. Toronto, Ontario

SUNDERMAN $7.50
F. O. B. Newburgh N. Y.
Vacuum Carburetor

Model F, for Ford, Metz and Saxon Four, has shown marvelous gasoline economy and remarkable increase in power.

Perfect carburetion can be secured only through perfect mixing of gasoline and air in proper proportions. The Sunderman Carburetor not only produces such a mixture but breaks up the gasoline globules so finely that a **MORE POWERFUL** mixture is the result. Sunderman-equipped cars save from 30 to 50% in gasoline—increase mileage from 42 to 100%.

Order at Once—Splendid Dealer's Proposition.

SUNDERMAN CORPORATION, 17 Chambers St., Newburgh, N. Y.

WINTHER MOTOR TRUCKS

Simple as A B C

THE reason for the Winther supremacy in both sales and service is as simple as A,B,C. Development as a direct result of war-time conditions, Winther best met the needs of a nation at war and best meets the need of a nation in peace.

WINTHER (REAR DRIVE) AND WINTHER-MARWIN (FOUR-WHEEL DRIVE) TRUCKS ARE EACH BUILT IN SEVEN SIZES, 1½ TO 7 TONS CAPACITY.

WINTHER MOTOR TRUCK COMPANY
Dept. 20. KENOSHA, WIS.

Elgin Six
"Car of the Hour"

Has gained predominance in its price class by unmatched performance. All that a motor car should be, at a price that is surprisingly low.

118-inch Wheelbase
Valve-in-Head Motor

Elgin Motor Car Corpn., Argo, Illinois

ABC 100% PURE PENNSYLVANIA OIL

The best lubricant for your automobile motor that your money can buy. Keeps operating costs down and performance up to a standard of perfection that is most pleasing. Costs more per gallon (and worth it) but less per mile.

ASK FOR PROOF.

AUSTIN, BRYANT & CARTER
1603 EAST WASHINGTON ST. :: LOS ANGELES, CALIFORNIA

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EISEMANN MAGNETO

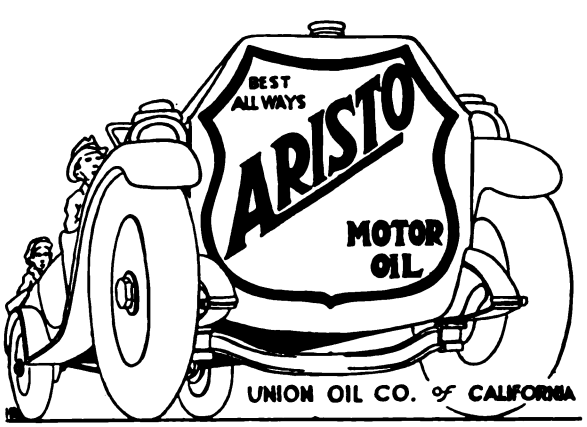
The Kentucky Wagon Mfg. Co., which has used Eisemann ignition as standard equipment on its trucks for some time, has just contracted for Eisemann Magnetos for the "Dixie Flyer," its passenger car.

The Eisemann Magneto Corporation, 32-33rd St., Brooklyn, N. Y.
Chicago, 910 S. Michigan Ave. Detroit, 85 Willis Ave., West.

A
PEX
Motor Oils
THE HIGHEST POINT OF EFFICIENCY
Gasoline "with the Punch"
PUENTE OIL CO.
Oldest Refiners and Producers on the Coast

THE World's Best Book on Motor Car Electric Systems, Electric Testing, Elementary Electricity, The Gas Engine from an Ignition Point of View and Driving the Car. 1919 Edition now ready. Special sections covering Packard, Dodge, Hupp and Maxwell Systems: Over 525 circuit and wiring diagrams up to date. 500 pages. Price $2.50 Prepaid. Order today. We also manufacture Electric Testing Instruments for Garages. Catalogue free.

H. E. PHILLIPS & CO.
(Formerly at Dayton, Ohio.)
Union City, Indiana



Los Angeles, Cal.—The Clinton M. DuBois Motor Co. has moved to 543 S. Los Angeles St.; it has the Metz car agency.—The Diamond T Pacific Truck Co., handling Diamond T trucks, has been incorporated for $100,000 by H. T. Sheriff, C. V. Dwyer, Hal M. Squire.—Domenico Basso, located at N. Broadway and Solano St., has taken the Chevrolet agency.—The Rutledge Motor Car Co., newly appointed National car dealer, has located temporarily at 310 W. Pico St.—The M. & M. Co., manufacturing automobile "wing" windshields, is having a new plant built for it at 3647 Moneta Ave., costing $20,000.—The Occidental Motor Co., new dealer for the Elgin Six, has located at 1355 S. Flower St.—Downtown branch quarters have been opened by the Los Angeles Motor Supply House at 710 S. Spring St.—The Rider-Upright Co. has located at 936 S. Main St. to handle Gordon tires and automobile specialties.—The Pennsylvania Rubber Co. will move to 950 S. Main St.

Pasadena, Cal.—E. W. Johnson, former Los Angeles factory branch manager of the Apperson Motor Car Co., is now dealer for Apperson cars here; he has located on W. Colorado St.—John W. Davidson has taken the Cole car agency here.—The Noll Auto Co. will have a $20,000 garage built for it on Pasadena Ave.—Harry Vail has bought an interest in the Brokaw & Morris Garage; it has been changed to the Brokaw & Vail Garage.

South Pasadena, Cal.—The South Pasadena Garage has been bought by Thomas A. Slack and A. C. Clark.

Riverside, Cal.—The Roach Auto Co. has been bought by H. G. Trace.—The Miller Tire Agency has been opened on W. Eighth St.—Ross & Kelbarm have opened the Highway Garage on Lo Codena Drive.—A U.S.L. battery and ignition service station has been opened on W. Eighth St. by William Hammond.—The Western Motor Car Co. is now distributor for Maxwell and Chalmers cars.—The Riverside Auto Top Works will move into newly remodeled quarters on Seventh St.—Detroit batteries and ignition service will be handled by Pingree & Blodgett here.—The Grace Motor Car Co. has opened a branch on W. Ninth St., handling Dort and Auburn cars and Republic trucks.

Redlands, Cal.—J. C. and H. J. Williams, of the Redlands Tire Co., on W. Citrus Ave., have taken the Victor tire agency.

Santa Ana, Cal.—C. J. Kerr has taken the Orange county agency for the Case Six.

Long Beach, Cal.—The Burgess Motor Sales Co. has taken the Kissel car agency.—C. B. Gammon has bought sales quarters on Fourth St. and will sell Briscoe, Grant Six and Grant trucks.

Bremerton, Wash.—C. S. Osburn and Floyd Calvert have formed the firm of Osburn-Calvert Motor Co., and will handle several accessory lines.

Vancouver, Wash.—Lyons & Matlack have taken the Hupmobile agency.

Walla Walla, Wash.—Hal F. Hillman has taken the Paige line here.—The Velie car and truck agency has been taken by F. B. Waterman.

Olympia, Wash.—E. H. Schultz has opened on Fifth St. and will handle high-grade six-cylinder cars exclusively.

Creston, Wash.—Jack Tavis has bought the Concrete Auto Co. from John R. Siebert.

Pasco, Wash.—The Empire Electric & Auto Supply Co. has taken over the Pasco Electric Co.

Clovis, Cal.—Carl Noren has sold his interest in the Peasley-Noren Garage to R. L. Read.

Willows, Cal.—M. A. Murphy has taken the American Six agency.—Howard A. Cookson has taken the Essex and Hudson agencies for Glenn county.

South San Francisco, Cal.—The South City Garage has been bought by Jack Webber from L. Montgomery and Jack Luttrell.

Santa Ana, Cal.—Charles L. Davis, Chandler and Cleveland Shaffer.—J. Hadley has taken the Paige and Reo agencies.—The Overland agency has been taken by Ash & Lindsey.—The Orange County agency for Nash cars has been taken by H. W. Walker.—Gerken & Kolbarg are now Buick dealers here.—The Orange County agency for the Franklin has been secured by Bob White.

Oxnard, Cal.—The Oxnard Garage has taken the Hudson and Essex agencies.—Thost & Prairie have become distributors for Diamond, U. S. and Hartford tires.—Herbert Hall has opened an automobile top and trimming business.

Santa Paula, Cal.—Hersey & Akins are now distributors for the Cadillac.—Vansant & Badger have opened an automobile and tractor repair business.—W. H. Claburg has opened an Exide battery and electric station here.—A Willard battery and ignition service station has been opened on Main St. by Fred A. Ransdell.

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SCORED CYLINDERS

Repaired by **"Lawrence Patent Process"** with Silver-Nickel Alloy, fused electrically. No warping or enlarging of bore. Same piston and rings fit. All work absolutely guaranteed. Reshipped 24 hours after received. Endorsed by all manufacturers. Also burnt and oil scores repaired. Plants in all principal cities.

Established 1862
L. LAWRENCE & CO.

SAN FRANCISCO, 116 Hyde St. — LOS ANGELES, 1030 South Grand Ave.

All infringers will be prosecuted to full extent of the law.

For Your Battery's Sake!

Use the Genco Battery Filler—keeps dirt, dust and grease out of your battery cells. The dial cap with MOVABLE INDICATOR records last date battery was filled and tested. RESULT—Better lights and never-failing starter. The dial is water and acid-proof and will last a lifetime. Genco Filler costs $2. Dealers and Jobbers write for full information and increase your profits. Manufactured only by

General Scientific Equipment Co.
North Philadelphia, Pa.
Hydrometer Manufacturers Since 1893.

SECURITY AUTO LOCK

The original loose wheel lock for Fords. Approved by under writers. Insurance reduced 15%. Made of solid brass. Nickel plated. Easily installed in 10 minutes. No drilling. No filing.

No sawing.

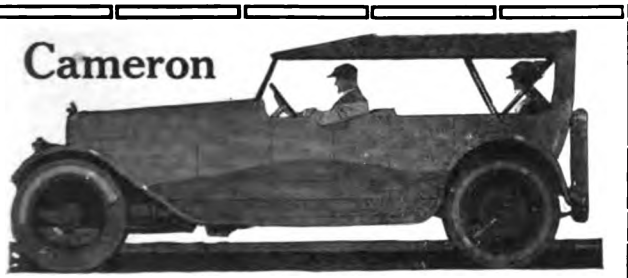
No chiseling.

Price $6.50.

Western Distributors Wanted.

SECURITY AUTO LOCK CO.
410 N. Paulina St.
Chicago, Ill.

Cameron



AIR-COOLED
Light Weight High Mileage Splendid Equipment, $2,000.
THREE YEAR DEALER CONTRACTS

CAMERON MOTORS CORPORATION
2 COLUMBUS CIRCLE NEW YORK

MOHAWK
"Qualify" TIRES

There is just one simple common-sense reason why Mohawk Tires wear so well—why 85% of all car owners who buy their first Mohawk Tire become permanent Mohawk users.

We use only the finest quality of rubber and fabric, and our standards of workmanship are, we believe, the highest of any tire company.

THE MOHAWK RUBBER COMPANY
AKRON, OHIO
NEW YORK BOSTON ATLANTA CHICAGO
KANSAS CITY DALLAS SAN FRANCISCO

MORE POWER --- LESS FUEL

SU-DIG SERIES PLUGS are the only spark plugs that produce TWO SIMULTANEOUS SPARKS in each cylinder when connected with the ordinary plug. The two opposed sparks ignite the mixture at two points at once. This burns the gas more than TWICE AS FAST, resulting in a wonderful INCREASE in POWER and GASOLINE MILEAGE, and WITHOUT ANY CHANGE IN THE PRESENT EQUIPMENT.

Free booklet, "How to Get More Power." Write for it. Please mention car.

CHANSLOR & LYON CO.,
San Francisco, Los Angeles, Fresno, Oakland, Seattle, Portland.

McCOY MOTOR SUPPLY CO., San Francisco, Los Angeles.

SUPERIOR MOTOR POWER CO.,
135 D Fifth Avenue New York

MORELAND TRUCKS

All Morelands burn Distillate

They are reliable, rugged and powerfu transportation units

Moreland Motor Truck Co.
1701-31 N. Main Street Los Angeles, Cal.

BEST FOR THE WEST

LOS ANGELES WAREHOUSE COMPANY

MAKES A SPECIALTY OF AUTOMOBILE STORAGE

CARS UNLOADED DIRECTLY INTO WAREHOUSE

316 COMMERCIAL STREET
14727, Main 4787

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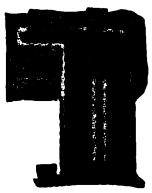
MOTOR WEST'S REGIONAL MOTOR MART

RATES—One time, $4.00 per inch; three times, $3.75 per inch; six times, $3.50 per inch; twelve times, $3.25 per inch; twenty-four times, $2.75 inch

CYLINDER WORK

SCORED CYLINDERS



made perfect by the Klassen Copper-inlay process. No heating, no re-boring, no chance to crack or warp.

Our Guarantee—A new block of cylinders if any one of these inlays ever comes out. We have been repairing perfectly hundreds of wrist-pin scored cylinders at a fraction of the cost of re-boring.

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SCORED CYLINDERS
REPAIRED BY
Lawrence Patent Process

Fused with our silver-nickel alloy. Same pistons fit. Reshipped 24 hours after received. Approved by all motor manufacturers. Guaranteed for life of motor.

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"MORE POWER TO YOU"
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PROVEN BEST IN EVERY TEST
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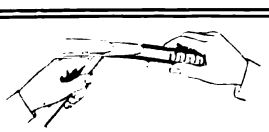

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We carry an immense stock of parts for nearly every make and model of car ever made. No matter what part of a car you may need a part for, we can most always fill your order.

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We have a large collection of motors from 10 to 120 horsepower, which can be used for boats, tractors, trucks, pumping plants, and ditching machines; also a large stock of new accessories and gears that are at a discount of 50%. Magnetos, carburetors, generators and starters of all kinds.

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Successors to
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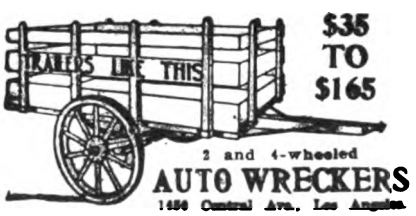

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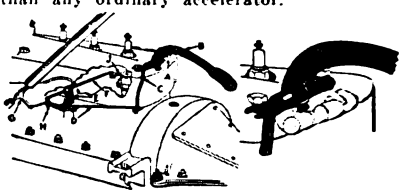
DEMAND THE LEMCO FORD FOOT ACCELERATOR BECAUSE

It will save you one hour's time in making Installation and cost you no more than any ordinary accelerator.



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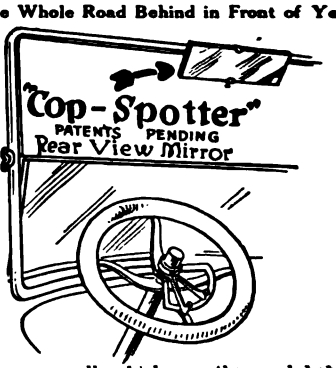
Lemco Mfg. Co.
LOS ANGELES, CAL.
1042 S. Olive St. Main 2858

"COP-SPOTTER" MIRROR
"The Whole Road Behind in Front of You"



Shows you all vehicles on the road behind, from curb to curb. Eliminates danger of rear end collisions. Vibration proof.
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Dealers and Jobbers—Get our proposition.
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BLACK BLDG. LOS ANGELES.

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UNIVERSAL AUTO WINDOWS.

Made of polished plate glass, frames heavily nickeled on brass for both sides of curtain. Up-to-date top shops are using them. Send for circular showing styles and price list.

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Saves 25% to 50% Gasoline, removes carbon, produces motor efficiency and completes lubrication.

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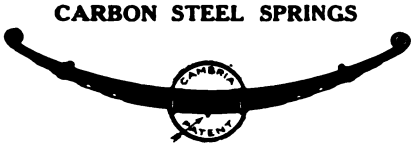
"Proven Quality"

CHROME VANADIUM AND CARBON STEEL SPRINGS



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Wrecking Jobs Our Specialty

Tire Racks and Platforms Applied
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LOS ANGELES

LATE TRADE NEWS

New Studebaker Model Soon.

Forty Studebaker distributors, recently met in South Bend, Ind., saw an experimental example of the new model which will be released soon, and which had traveled 12,000 miles from the Atlantic to the Pacific. President A. R. Erskine said the closed bodies of this model will be made in South Bend. They were formerly bought in Detroit.

* * *

Making of Ferris Six Started.

Manufacturing of the Ferris Six, Cleveland's newest entrant into the field, has been begun by the Olds Motor Vehicle Co. at 6102 Euclid Avenue.

* * *

Government Settles with Harroun.

Harroun Motors Corp. has obtained settlement of a large portion of its claims against the Government for shell making, and with final settlement near, the company will begin production of automobiles on a large scale to meet demands.

* * *

Ross Goes to DuPont Company.

Parke Ross has resigned as sales manager of the Elgin Motor Car Corp., Chicago, to become sales manager of the DuPont Motor Car Co., Wilmington, Del. His successor has not been named.

* * *

Stutz Resigns as Stutz Director.

At a recent meeting the directors of the Stutz Motor Car Co., Indianapolis, accepted the resignation of Harry C. Stutz as a member.

* * *

Willys-Overland Promotion Grows.

Production is steadily increasing in the Toledo plant of the Willys-Overland Company. The middle of November there were 11,340 workers, the largest number since the beginning of the strike, which has been going on since summer.

SPRINGS

FORD SPRINGS

We are fully equipped for manufacturing Automobile and Truck Springs of superior quality. We solicit the inquiries of Automobile and Truck Manufacturers. We carry a large stock of *Ford front springs*, and also manufacture one-piece angle iron auxiliary radius rods for Ford cars.

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Distinguishes the BEST from the REST
The *Choice* of the MAN *who* KNOWS

No Rocking or Swaying on Curves
Guaranteed 5 Years

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Los Angeles 75 Towne Ave. | Portland, Ore. 503 Alder | Seattle, Wash. 562-1st Ave., S.

HOTELS

Fast Output on Reo Truck.

The Reo Motor Car Co., of Lansing, Mich., recently made a record-breaking daily production on its speed-wagon truck when more than 100 came off the assembly chain in the course of a nine-hour day. The same qualities which make the truck successful for long freight and passenger hauling enables the company to deliver its product by drive-away. Reo truck fleets recently left the factory for points as far away as Denver, Shreveport, La., and Portland, Ore.

* * *

McCormick in Charge of McCord Sales.

C. B. Bailey, general manager of the Wyandotte plant of the McCord Mfg. Co., announces the appointment of Malcolm McCormick in charge of sales and advertising. Mr. McCormick was for a number of years associated with the Burroughs Adding Machine and Chalmers Motor Co.'s. An aggressive sales and advertising campaign is planned for the coming year.

BEARINGS.

TRADE MARK SRB REGISTERED

BALL—ROLLER BEARINGS

STANDFORD ROLLER BEARINGS
For Ford and Chevrolet 490 Front Wheels.

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Phone 22769. 1522 S. Grand Ave., Los Angeles.

THE 4 in 1 TOOL

The indispensable wrench for all car users. It Fits the Spark Plug, Valve Cap and rim lug, as well as being a tire iron. Cannot slip off and hurt the hand.

NICKEL PLATED PRICE $1.50

Ask your dealer, or order direct from

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CLEAR VIEW

WINDSHIELD CLOTH

AVOID ACCIDENTS

Do not drive your car with a Rain-Blurred Windshield
Over 10,000 Accidents Yearly caused by such a condition

RAIN-SNO "RED CLOTH" keeps the entire glass clear by chemical action. One application over wet windshield will give a clear driving vision which will last as long as any storm. *Be insured against accident* and secure a RAIN-SNO CLOTH today. At your dealers or by mail postpaid. **Price 50 cents**

Refuse substitutes and insist upon the Original "RED CLOTH"

Made only by SUFFOLK MANUFACTURING CO.
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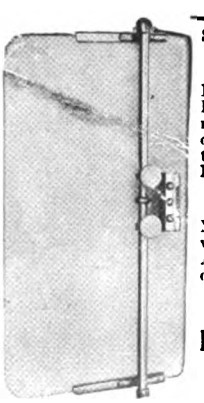
WIND DEFLECTORS



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Ride in solid comfort. Keep that draft off. You not only owe this added comfort to yourself, but to your passengers.

No Perforations in Glass
Rust-Proof Brackets
Rattle-Proof

Not a novelty, but a proven, practical necessity. Accept no substitutes, demand Pacifics.

(Name on each pair.)
Price $20.00.

Pacific Windshield Co.
814 South Olive St.
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Phone M. 8122.

Stanwood Rubber Plant Progressing.

The Stanwood Rubber Co. will start production much sooner than was expected, owing to the progress being made on its plant, between Elizabeth and Newark, N. J.

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FISK TIRES

FISK TRADE is permanent—that sums up its strength. Fisk Tires are visibly desirable. They show it—in size, detail or workmanship, good looks. And they are generous in excess mileage.

There is a Fisk tire for every demand —each full value for its cost.

Our dealer-proposition is attractive.

The ideal of the Fisk Rubber Company is to be "the best concern in the world to work for and the squarest concern in existence to do business with."

Sold direct to dealers and manufacturers.

There is a Fisk Branch within 24 hours of all dealers.

Time to Re-tire?
(Buy Fisk)

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FORDS do not have to RATTLE and JAR!

IT has been proven that Fords don't have to rattle and shake. But the majority of Ford owners don't know this. They don't realize that the Ford is made of better stuff and is better assembled than most cars. They blame the car for what is really the fault of the lining used for stopping and starting.

Advance Cork Insert does away with this shaking and rattling. You can prove this. Take a chattering, shaking Ford and install Advance Cork Insert. Notice how smoothly it stops—how evenly it goes into low or reverse.

Ordinary linings get a hard, slick surface from friction and oil. This slick surface hasn't any grip—it grips and slips, grips and slips, repeatedly. This slipping and gripping causes the chattering and vibration—it loosens the whole car and makes it rattle.

Advance Cork Insert Linings grip smoothly—are unaffected by oil—hold their smooth gripping power—never get a hard, slick surface—outwear three sets of any other lining.

$3.00 per set
$3.25 Rockies West
Canadian price
$4.50

Dealers

You'll never know how much business you can do with Advance Cork Inserts until you get them in stock. It is a fact, they are the best selling lining you can buy. Ford owners want Advance Cork Inserts. They insist on them. It will pay you to sell your customers what they want. Advance Cork Inserts are widely advertised. Ask your jobber—or write us, direct.

Advance Automobile Accessories Corp., 56 E. Randolph St., Chicago

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Bill, the NeighborHood Tire Expert, Talks on Buying Discounts

"What about this Hood Tire you carry, Bill? I'm hearing a lot about it. What's a 34x4 cost?"

It was Sam Brown talking, and Sam was a notorious bargain hunter. Couldn't do business with him, Sam boasted, unless he got about 25 off list.

So I says to him: "Costs less than any tire you ever bought."

"That so?" asked Sam. "I thought it was a high-priced tire. You must give a pretty big discount off, don't you?"

"You're wrong and you're right, Sam," says I. "There's nothing off list, and the price is right up at the very tip-top. But you asked me what it cost, and I'm telling you again. It *costs* less than any tire you ever did buy."

"How do you get that way?" Sam comes back at me. "You don't give anything off, your price's way up, and yet you say Hood Tires cost less than any tire I ever bought. You've got to show me."

"Just what I'm going to do, Sam," says I. "How much do you pay for a 34x4 non-skid?"

"I pay about $31.00, and that's plenty, I'll tell you," he snorted.

"What mileage do you get?" I asked him.

"Guaranteed 6000 miles," he said. "Had one that went 6500."

"So that it costs you, if you average the guarantee about 50 cents per 100 miles for your tires," said I, after a little figuring. "Now the same size Arrow tread Hood will cost $46.25. It'll average 14,000 miles. But just to be conservative, say you don't get more than 12,000 miles. It costs you 40 cents per 100 miles. A Hood Tire will mean a saving of 10 cents per 100 miles, or $12.00 on 12,000 miles, not counting what you save by not having to buy a new tube. That $12.00 per tire means practically $50.00 for all four wheels. Ain't that right?"

I had pushed the paper with the figures on it toward Sam, who stood there scratching his head and looking at them.

"Ain't that right?" I asked him again.

"It's right, I guess, all right," he said. "But can't you give me a little off that price though? Say a little 10 per cent?"

"Nothing doing, Sam," says I. "You're saving $12.00 when you buy a Hood Tire. What more do you want?"

"But I oughta have a little discount from a high price like that," entreated Sam. "I always get a discount when I buy."

"That may be true, Sam, but Hood Tires aren't made to be sold with long discounts. The list price represents what's only a fair profit to me. If I give you a discount, it's just like reaching down in my pocket and giving you $5.00 or $10.00 of my money—money I've earned and am entitled to; money I need to stay in business. You wouldn't ask a discount on a pair of shoes or an overcoat. And don't fool yourself that any tire dealer is giving you a discount out of his own pocket. He wouldn't be in business long if he did. If you want a tire that will give you mileage, and a saving of $12.00 per tire, like I just showed you, I've got exactly what you want in stock. What do you say, Sam?"

Sam gave another look at the figures and gulped hard. That $12.00 saving per tire was getting under his skin. He scratched his head, looked the figures over and then turned to me.

"All right, you win, Bill. I never figured it that way before. I guess I'll try that Arrow tread Hood."

When he was going out the door, he hesitated, stopped and looked back at me. "It's all right, Bill," he says, "it's all right. I'm never going to *buy any discounts* any more."

Branch
San Francisco, Cal.
118 New Montgomery St.

Branch
Los Angeles, Cal.
1223 S. Olive St.

Ask Bill at the Sign of the Hood Dealer. He Knows Tires

HOOD TIRE COMPANY, Inc.

Watertown, Mass.

HOOD EXTRA PLY TIRES

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The ROEDDING Signal Tail Light tells the man behind in large, clear, unmistakable letters, just what to do. Whether it is STOP, RIGHT, LEFT or BACK, the large 10-inch ROEDDING flashes a signal that eliminates all guesswork.

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EASY TO INSTALL

The ROEDDING can be quickly installed by yourself. It is water-proof, dust-proof and fool-proof. There is nothing to get out of order.

DEALERS—The demand for ROEDDING Tail Light Signals is rapidly increasing because it fills a long-felt want. It is up to you to cash in—with quick profits—on this insistent demand. Write us for particulars—NOW.

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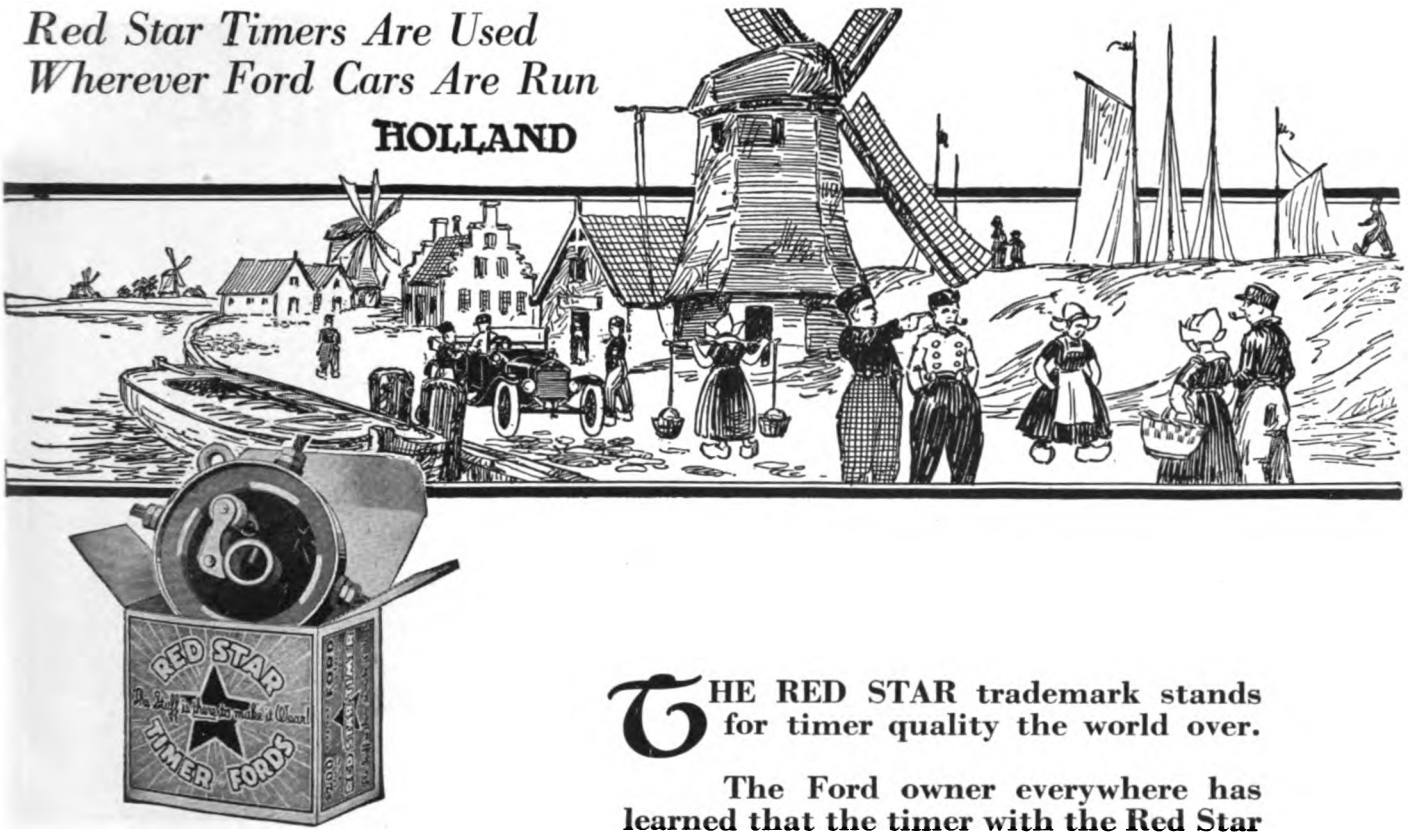
Red Star Timers Are Used Wherever Ford Cars Are Run



Each Red Star is packed in a red and blue printed carton

THE RED STAR trademark stands for timer quality the world over.

The Ford owner everywhere has learned that the timer with the Red Star **on the shell will make his Ford hit on all four—give him a smooth-running, powerful motor—with pep and pick-up.**

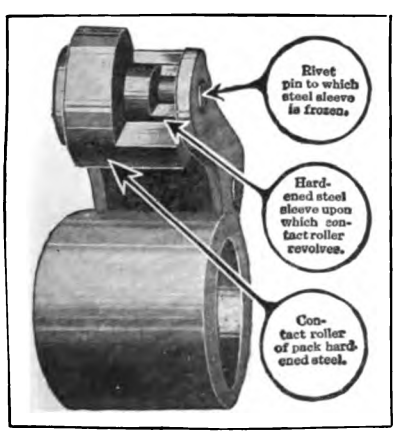
The roller-on-a-roller, a special Red Star feature, guarantees a smooth-working accurate timer. The roller can't drag or wear angular—it rolls in perfect contact with the race all the time.

The perfectly surfaced, hard fibre race, with mortised-in contact shoes, wears evenly and smoothly. It does not pit or get bumpy.

DEALERS—Ford owners are asking for the timer with the Red Star trademark. The Red Star quality and our advertising have made them extremely popular. Get a Red Star display sign in your window. Write us about it. It brings in the business. Your jobber has Red Stars. If he doesn't quote you quickly, write us.

Red Star Timer
FOR FORD CARS·TRUCKS AND TRACTORS

$2.00 in United States
In Canada, $2.75



Study the construction of the Red Star Roller

Auto Components, Inc.
56 E. Randolph Street, Chicago, Ill.

No. 2 of a series

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Attention Dealers!

Tie up with a tire that brings you prestige, makes new friends, creates good will and builds substantial business. We have some fine open territory to allot on attractive terms—but you'll have to act *quickly.*

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DORT

Quality Goes Clear Through

Profitable Partnerships

Dort dealerships are at a premium throughout the country.

They are proving permanent and profitable business connections everywhere.

It is a situation in which the organized and practical co-operation of Dort distributors has played no small part.

Dort distributors regard their dealers in the light of partners.

Being business men of marked competence themselves, they are careful to select dealers of sound character and high calibre.

Such men are worthy of the full confidence and close co-operation of Dort distributors and they get it.

And the abler automobile dealers of the country have not been slow to recognize the desirability of a Dort franchise.

As a result you will find that the demand for Dort dealerships, like the demand for the car itself, is out of all proportion to the supply.

Coast Dort Distributors

EARLE C. ANTHONY CO., Inc.
San Francisco Los Angeles
Fresno Sacramento
San Diego San Jose
Stockton Oakland
California

NORTHWEST AUTO CO.
Portland, Ore.

New York Show
Space A 10
First Space at Left of Entrance

Chicago Show
Space A 3
Second Space at Left of Entrance

(155)

DORT MOTOR CAR COMPANY

Flint Mich.

Canadian Factory, Gray-Dort Motors, Ltd., Chatham, Ontario

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Performance
That Gains the Market

HUNTER TRANSFER COMPANY

Ithaca, Michigan
September 19, 1919

My Transport two-ton completed its first 5,000 miles today, and I am so well pleased with it that I feel I owe the Transport Truck Co. this letter.

I have used the truck almost every day since I bought it, thru all kinds of roads with over capacity loads. It has never once refused to perform the tasks, although they have sometimes been very unreasonable.

The following figures are taken from my book: Actual weights of loads hauled--6140, 5900, 6675, 7550, 6900, 6300, 6700, 4050, 5570, 7050 pounds.

My total expense so far has been one dollar for a spark plug broken in tightening.

I expect to buy another truck in the near future and there is no question in my mind as to what that truck will be.

Yours truly,

R H Hunter

TRANSPORT TRUCKS

FRANK BRYSON
AGENT FOR
STANDARD OIL COMPANY
OF MT. PLEASANT, MICHIGAN

September 18, 1919

Since purchasing my Transport Truck last March I have run it every day in the service of the Standard Oil Company, approximately sixty miles daily, and have become better satisfied with my purchase every day.

The truck has never been in the garage for service and apparently will not require any for some time.

Because of its economy in gasoline, oil and service, it is a very economical truck, and, therefore, a good money maker.

I have owned other trucks, but never anything in a class with the Transport. If you maintain the standard of my job and the public becomes familiar with it, you will never be able to build a factory large enough to supply the demand.

Yours truly,

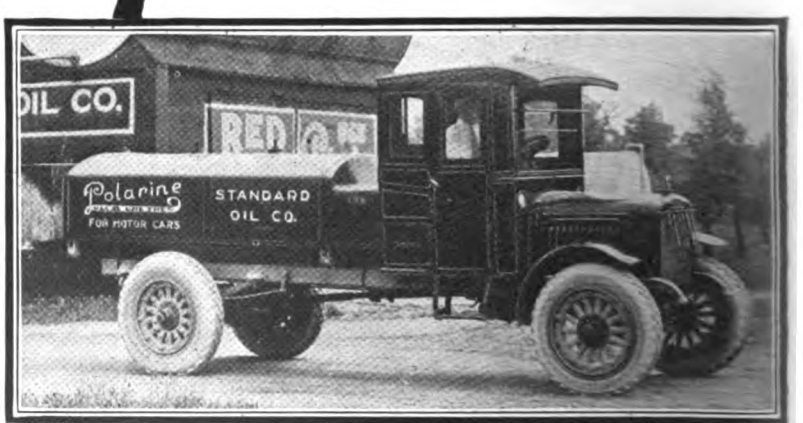
Frank Bryson

HERE are four letters from our large and daily increasing file on the *performance* of Transport Trucks. These letters are from *users* in different lines. They tell a remarkable story of sturdiness, faithfulness, low upkeep, and fuel economy.

Note what Mr. Prowdley says about the governor and hot spot manifold—what Mr. Hunter, Mr. Bryson and Mr. Chatterton say about freedom from upkeep expense. Hundreds of other users of Transport Trucks back them up.

Yet this was only what was to be expected of the time tested, high quality units that go into the Transport—the balanced construction—and the *experience* of the men behind the Transport who have made and marketed many thousands of trucks. These are the things that build a truck market—particularly the word of users. Succeed with the Transport—a line for the widest range.

1-Ton, $1750 1½-Ton, $2050
2-Ton, $2585



TRANSPORT

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Construction
That Insures the Dealer

YOU do not have to argue with any truck prospect about the superiority of Transport units. And you do not have to worry about excessive service, or keeping the Transport sold. These are features that sell the truck, insure performance and years of truck life:

Transport Hot Spot Manifold, adding two miles to the gallon; Extra Heavy Duty Continental Red Seal Engine; Clark Internal Gear Rear Axle; Columbia Front Axle; Fuller & Sons Transmission; Eisemann Magneto; Duplex Engine Governors; Stromberg Carburetor; Jacox Steering Gear; Arvac Joints and Drive Shafts; Detroit Steel Products Springs; Detroit Pressed Steel Frames; Goodyear Tires.

And over half the lubrication *automatic*.

Succeed with the Transport. Send for details of our proposition.

Transport Truck Company
Mt. Pleasant, Michigan

BORDEN CREAMERY SERVICE

Shepherd, Michigan
September 22, 1919

My Transport two-ton truck, purchased in March, has run more than ten thousand miles and, except for a slight accident, which was no one's fault, the truck has been in service every day, carrying in most cases an overload over rather severe road conditions.

I do not believe there is a truck in this country which has made the record my truck has made in mileage and upkeep cost. The governor and hot spot manifold is a fine equipment and not only makes the operation easy, but very economical.

My truck has paid for itself a long time ago. I can assure you that my new trucks will all be Transports.

Yours truly,

R. L. Prowdley

TRANSPORT TRUCKS
MT. PLEASANT, MICHIGAN

CHATTERTON & SONS
GRAIN AND SEEDS

Lansing, Michigan
September 15, 1919

We are very glad to say that our Transport is giving us excellent service. In the six or eight months that we have been using it we have not paid out one cent for service in any shape or form.

Yours truly,

H. E. Chatterton

INTERNAL GEAR DRIVE **TRUCKS**

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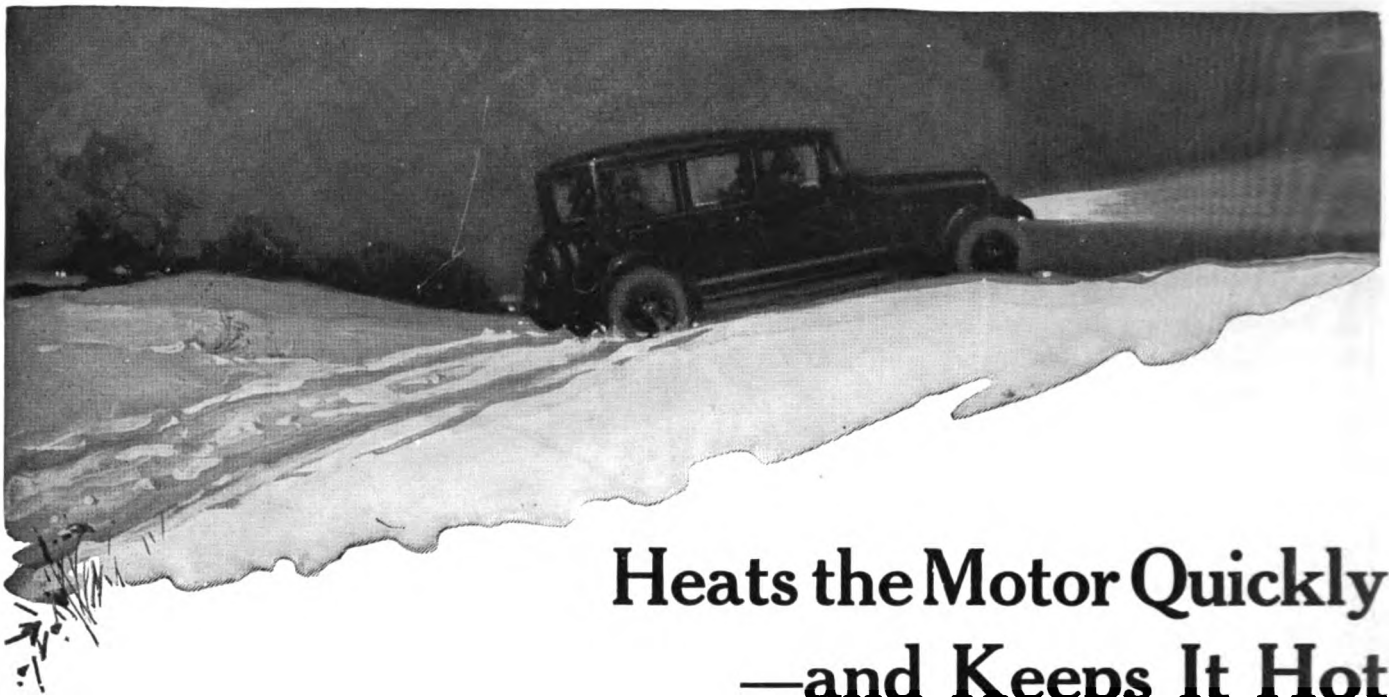
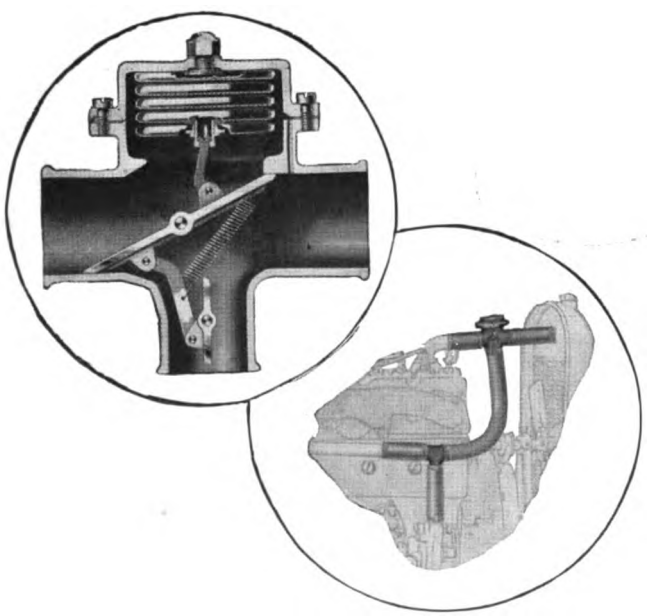


Heats the Motor Quickly —and Keeps It Hot

In cold weather you will save your batteries—and your temper—if you have a Rayfield Thermostat on your car.

The motor warms up quickly in the coldest weather and runs smoothly. It stays warm longer when the car is standing.



The Rayfield Thermostat is simple in construction and easily installed at the top of the motor between the motor block and the radiator.

Once in place it ordinarily needs no further attention during the life of the motor. It does not clog and in no way impairs the cooling efficiency in warm weather.

The Rayfield Thermostat can be obtained from any Rayfield service station or dealer. There has been a heavy demand for thermostats, and if your dealer does not have one in stock write us direct.

Owing to greatly increased production, the price has been reduced so that it is now within the reach of every motorist.

Beneke & Kropf Manufacturing Co.

2559 West 21st Street, Chicago, Illinois

(15)

RAYFIELD MOTOR THERMOSTAT

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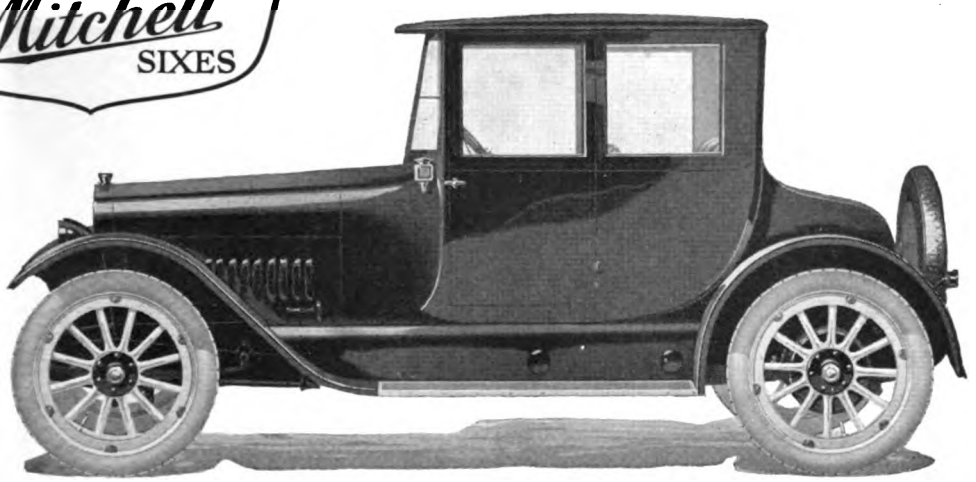
SUPERB CLOSED CARS

NEW Mitchell SIXES



Created by Master Designers

Five-Passenger Sedan
Four-Passenger Coupe

THESE new Mitchell closed cars show many radical departures from standard practices. To see them is to realize that they were designed by masters of the body-building art — bodies never before shown on other than the highest-priced cars.

Note the beveling that sweeps down the back of the body in a graceful curve. Raw edges of square corners are thus eliminated.

Note also, the low, rakish appearance. In these new-type bodies roominess is an outstanding feature, yet this wanted style appearance has been attained.

Fine Construction a Feature

Construction and materials make these bodies extra sturdy. There are no wood-to-metal joints as in most closed bodies. The entire body surface, including doors, is covered with metal panels. All panel joints are welded. Corner and door posts are solid.

The interiors are exquisite. Both dome and corner reading lights are of oxidized silver, chased in a delicate design. The upholstery is of rich gray velour, as are also the side panels and ceiling. The silk curtains and high-pile Wilton rug match these tones perfectly.

Comfort in cold weather is assured by a Perfection heater, set flush with the floor. Windshield, windows and doors are specially equipped to insure silence and weather protection.

These superb bodies are mounted on the new Mitchell Victory Chassis. There are scores of improvements and new ideas throughout the entire car. You'll find new touches never seen before.

A few paying opportunities are open. Write us relative to your own locality and the Mitchell plan.

5-Passenger Touring Car $1690
120-Inch Wheelbase—40 h. p. Motor
3-Passenger Roadster, same price

5-Passenger Sedan $2600
4-Passenger Coupe $2500

7-Passenger Touring Car $1875
127-Inch Wheelbase—48 h. p. Motor
All Prices f. o. b. Factory

MITCHELL MOTORS COMPANY, Inc., Racine, Wisconsin

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In beauty, Hayes Wire Wheels add to any car a percentage too great to be overlooked by those who take pride in car-smartness.

So it was to be expected that the first preference for wire wheels would be shown by owners of the costlier types.

But no less astonishing has been the general vogue of Hayes Wire Wheels among cars of all types and makes.

A great majority of car manufacturers specify Hayes as their wire wheel equipment.

Furthermore, literally thousands of owners have elected to change over to Hayes Wire Wheels.

These simple facts constitute the reasons why Hayes Wire Wheel dealerships are being rapidly taken by the better accessory and special agencies. There may be an exceptional opportunity in your city

Wire Wheel Division

Hayes Wheel Company, Jackson, Mich.

World's Largest Builders of Wheels—Wire, Wood, Steel

Sales and Service Stations:

Brooklyn Service Co.
1194 Bedford Ave. Brooklyn, N.Y.
Hayes Wire Wheel Sales Corp.
842-7th Ave. & 146 W. 55th St. N.Y.C.
Evans & Lawrie Co.
1090-2 Commonwealth Ave. Boston
Samuel Scott
2038 Ranstead St. Philadelphia, Pa.
Miller & Woodward
3751 Bigelow Blvd. Pittsburg, Pa.
Brigman Motor Company
491 Whitehall St. Atlanta, Ga.
Siggins Sales Company
106-8 E. Milwaukee Ave. Detroit
Wire Wheel Distributing Co.
435 Stark St. Portland, Ore.
Chicago Wheel & Rim Co.
2010-12 Wabash Ave. Chicago, Ill.
Auto-Marine Service Co.
1027 Nicollet Ave. Minneapolis, Minn.
Interstate Auto Company
206-8 E. Superior St. Duluth, Minn.
Motors, Equipment & Tractor Co.
1310 S. Grand Ave. Los Angeles, Cal.
H. V. & C. H. Carter
724 Van Ness Ave. San Francisco, Cal.
Automotive Supply Company
1558 Broadway, Denver, Colo.
The Three Captains Co.
700 S. Ervay St. Dallas, Texas
Motor Products Sales Co.
806 E. Pike St. Seattle, Wash.

HAYES Wire Wheels

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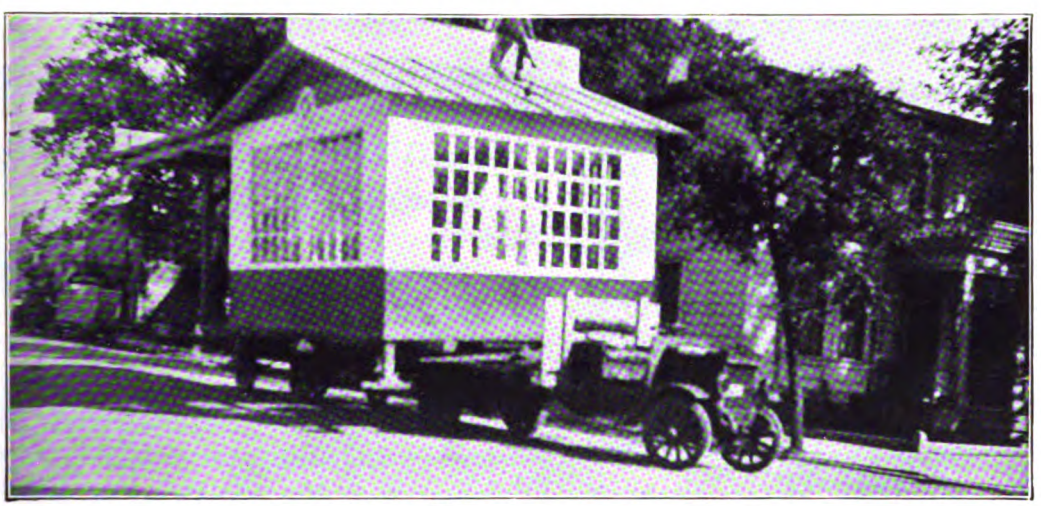
Little Journeys in PATRIOT Motor Trucks



Moving a House in California

The first house moved by a truck in California was moved by John Fisher, at Stockton, with a Patriot Washington Model. It was a steel Standard Oil Station, weighing eight tons. Later a 12-ton house was moved in the same manner.

Wherever Heavy Service is Demanded

Under unusually difficult conditions, Patriot Trucks are helping to add to their wonderful reputation. We sell Patriot Trucks on the basis of satisfactory operation under extraordinary service.

Revere Model	Lincoln Model	Washington Model
1500 to 2500 lbs.	3000 to 5000 lbs.	5000 to 7500 lbs.

HEBB MOTORS CO., ***Manufacturers,*** **1387 P Street, Lincoln, Neb.**

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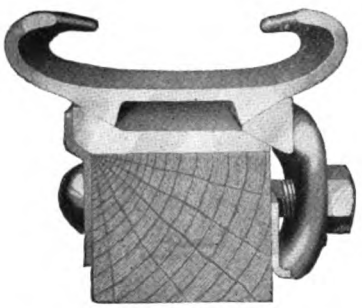
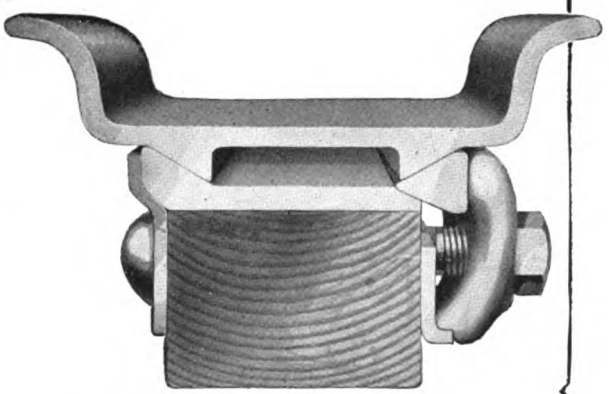
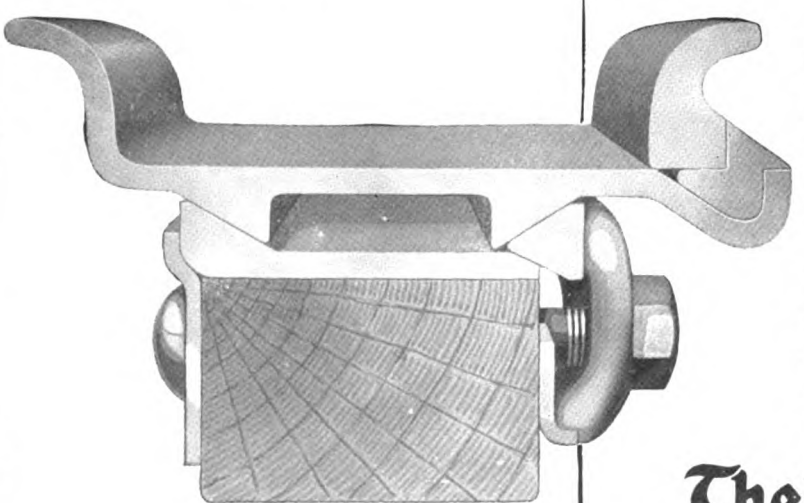
Firestone RIMS



Type F
Continuous base Demountable Rim for 30 x 3½ clincher tires.



TYPE E
Split base Demountable Rim for passenger cars. For straight side tires only.



Type C
Continuous base Detachable, Demountable Rim for passenger cars and trucks. This type of rim in the 6-in., 7-in., 8-in. and 10-in. size is the rim which has made the use of Giant Pneumatic truck tires practical. For straight side tires.

—quick detachable

—demountable

—no complicated parts

—no squeaking

—accurate alignment

—continuous bearing on felloe band

—continuous wedge ring support

—The supremacy of Firestone Demountable Rims is evidenced by the fact that they are standard equipment on the majority of high class passenger and commercial cars now manufactured. Firestone Type C Rims for trucks have put speed and greater mileage into trucking.

—There is a Firestone Rim for every kind and size of tire and for every type of service. See the Firestone Rim dealer or write for facts.

The Firestone Steel Products Co.

FIRESTONE PARK AKRON, OHIO

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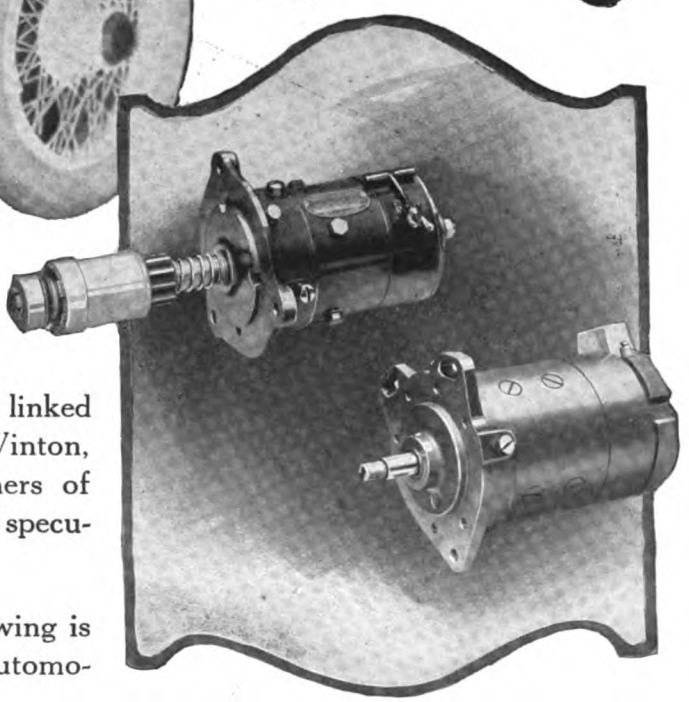
Bijur Starting & Lighting Systems

Standard Equipment on the Winton



Recognition

WHEN a starting and lighting system is linked up with such names as Packard, Winton, Marmon, National, Peugeot and others of the same quality, its quality is not a matter of speculation.

That Bijur is able to command such a following is ample indication of the place it occupies in automotive opinion.

Add to this its adoption by the Army and Navy for airplanes, seaplanes, blimps and tanks, and you have a collective endorsement that places the Bijur System in a premier position in the automotive field.

It needs nothing but its own performance to show why it is winning the substantial support of the world's best engineering minds.

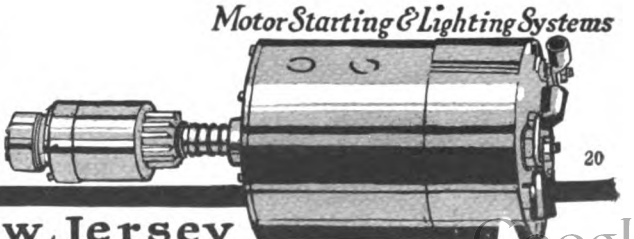
The Bijur Starting and Lighting System is in Service on

Passenger Cars
Motor Trucks
Motor Boats
Seaplanes
Dirigible Balloons
Tanks

Bijur Motor Appliance Company

Hoboken New Jersey

Motor Starting & Lighting Systems



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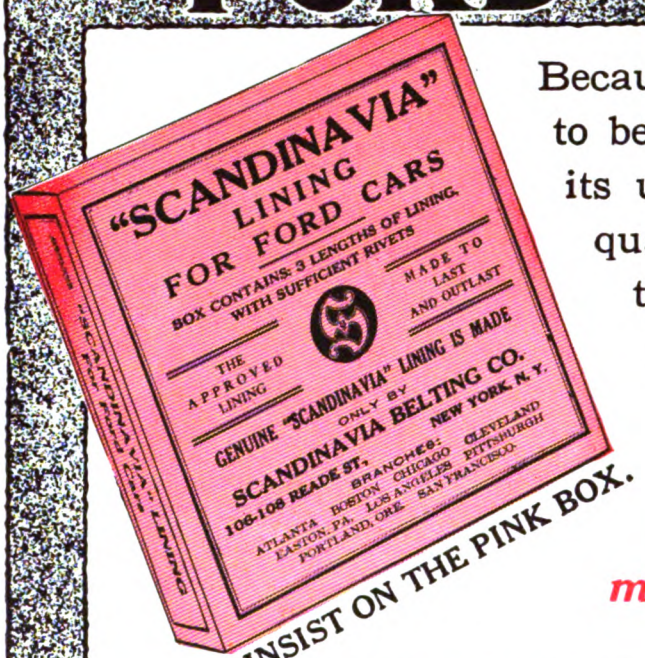
SCANDINAVIA

TRADE MARK REGISTERED IN U.S. PATENT OFFICE

BRAKE LINING for FORD CARS



INSIST ON THE PINK BOX.

Because it has proven itself to be all economy through its unusual long wearing qualities, and its satisfactory service during long usage—

Scandinavia has been the accepted lining for Fords for many years.

AS EFFICIENT AS AN AIR BRAKE—THE LINING DE LUXE FOR FORD CARS

Scandinavia is made especially for Ford use. The hot, oily condition of the Planetary Transmission cannot harm it.

It will not chatter or glaze.

It is wear proof.

It is made of the best long staple cotton interwoven into a compact fabric, especially impregnated, processed and hardened to resist heat, oil and grit.

ATTRACTIVE PROPOSITION TO JOBBER AND DEALER.

SCANDINAVIA BELTING CO., 106 READE STREET NEW YORK, N. Y

BRANCHES: Atlanta, Boston, Chicago, Cleveland, Easton, Pa., Pittsburgh. San Francisco. Los Angeles. Portland, Ore.

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Motor West

THE MOTORING AUTHORITY OF THE PACIFIC COAST

VOL. XXXII., No. 5 DECEMBER 15, 1919 $2.00 PER YEAR

ONE CAR TO EVERY EIGHT INHABITANTS

Pacific Coast Leads the Entire Country in Number of Persons Per Car—South in Last Place.

There will be about 7,602,000 motor vehicles in the United States by January 1, 1920, according to a canvass taken recently on the automobile situation by the Boston News Bureau. This, needless to say, will be a new high record. Compared with it the figures for the beginning of 1919 showed 6,225,192 cars. Since January 1, 1919, in other words, the total number of motor vehicles, both commercial and passenger, will have increased 23 per cent in the succeeding twelve months.

Based on the estimated population of 105,253,400 persons a year ago, the first day of 1920 will show an average of one car for every 14 persons in the United States. The South, however, has still only one car to 23 persons, although its proportion of automobile absorption has in recent years been greater than that of any other section.

Next come the Middle Atlantic states with one car to every 17 persons. The New England states have one car to 15 persons. Moving westward we find automobiles rapidly increasing in proportion to people. The Middle West has 10 persons to one car; and the Far West, 9 persons per car. The climax in number of cars owned in proportion to human beings is found on the Pacific Coast—one car among every 8 persons.

As to automobile "density" by states, Iowa leads with a car for each 6.2 persons. Nebraska has 6.5; California, 6.6; South Dakota, 7; Kansas, 7.1; Montana, 8.1; and Minnesota, 9. New York state leads all others in number of automobiles, having 535,000 cars, but only one car to 20 persons, which is a poor showing beside that of its nearest rival, Ohio, with 510,000 cars, one car to 10.3 persons. Pennsylvania has 455,000 cars, 18.5 per capita, and Illinois is a close fourth with 470,000.

No one industry has of recent years aroused more public interest than the automobile. Wall Street during the past year has shown its interest in "motors" to an extent never seen before; railroads and electric lines have become vitally affected by the rivalry of fast gasoline-propelled transportation; and the shipper of goods, large and small, is according the commercial motor vehicle the consideration it never received before.

In all probability the good roads movement would never have obtained its present day stimulus had it not been for the coming and rapid multiplication of motor vehicles. Within the next few years the country will spend about $1,000,000 for highways, upon which most of the travel will be by automobile.

CARS PER CAPITA REGIONAL FORECAST FOR JAN. 1, 1920.

	Number of Persons Per Car
Pacific Coast States	8
Far Western States	9
Middle Western States	10
New England	15
Middle Atlantic States	17
Southern States	22

Car Thefts Go Merrily On.

During eleven months of this year 1,463 cars were stolen in Los Angeles, according to a police report on Nov. 30. Of the cars stolen 1,187 were afterward recovered, leaving 276 still "outstanding" and representing a loss of about $256,000. During November 86 cars were stolen and 61 recovered.

To Build Bodies for Chevrolet.

Steel drums for gasoline and oil and later automobile bodies for the Chevrolet assembling plant in Oakland, Cal., will be manufactured by the Niedringhaus Metalware Corp., a $1,200,000 corporation. Property has been leased in Oakland on Webster street, facing the estuary. Production of Chevrolet bodies will begin when the necessary machinery is on hand.

NATIONAL PARKS POPULAR IN 1919

Visitors Increased Over 60 Per Cent as Compared With 1918—97,721 Cars Carry 488,605 Persons.

The sixteen national parks were visited by 60 per cent more persons in 1919 than in 1918. The three great parks in California attracted 110,379 persons this year. Note the increases:

	1918	1919
Yosemite	33,527	58,362
Sequoia (maybe Roosevelt)	15,001	30,443
General Grant	15,496	21,574

In 1918 the increase was small in all parks, due to the war. The totals by years are: 1915, 344,799; 1916, 356,097; 1917, 488,268; 1918, 451,691; 1919, 755,325.

Thirteen of the national parks have been such many years. Lassen volcano was added in 1917. In 1919 Grand Canyon and Lafayette were added.

In 1919 the total of visitors to the six national monuments in which registration was kept was 55,309. Muir Woods, California, led with 42,200. Colorado monument drew 3,000; Casa Grande, Arizona, 3,975; Petrified Forest, Arizona, 3,000; Zion monument, Utah, 3,000; Capulin Mountain, New Mexico, 1,500. No attendance records were kept for the other 17 national monuments.

In 1919, 97,721 automobiles entered 12 national parks in which close count was kept, meaning 488,605 motorists, averaging five passengers per car. The 1916 record for 12 parks was 29,358 machines; 1917, 54,692; 1918, only 53,966; 1919, 97,721.

Rocky Mountain National Park, in Colorado, led in number of automobiles in 1919, registering 33,638; Yosemite, 12,109; Yellowstone, 10,737; Mount Rainier, 10,434; Wind Cave, 8,240; Lafayette, 7,000; Crater Lake, 4,637; Sequoia, 3,852; General Grant, 3,366; Glacier, 1,697; Grand Canyon, 1,575; Mesa Verde, 436.

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PORTLAND SHOW PLANS CHANGED

Will Be Held in Ice Palace, and to Be for Passenger Cars Only—Truck Men to Have Run.

Plans for the Portland automobile show, to be held the week of February 23-28, have been entirely revised. Instead of a combined automobile and truck show to be staged in the new pavilion of the Pacific International Livestock exposition, it has now been definitely decided to hold the show in the Ice Palace and to make it a passenger car show exclusively.

The Ice Palace was the site of last year's show, but at that time trucks were exhibited also. The result was that all exhibits were crowded. By eliminating the trucks and devoting the entire space to passenger cars, the problem of space in 1920 has been solved.

The Ice Palace is the largest building on a single floor in Portland. It covers a space 360x130 feet, without a post on the floor. M. O. Wilkins, president of the Motor Car Dealers' Association of Oregon and manager of the show, has announced allotment of reservations to 34 dealers to display 159 models, including 65 different makes of cars.

For the first time in the Northwest, a feature will be made of enclosed car models. Probably 40 to 50 per cent of the cars on display, Wilkins says, will be enclosed cars. This is significant of changed selling conditions in the Portland territory. As late as two years ago dealers here had the greatest trouble in disposing of any closed cars at all, despite the fact that winters here are tolerably wet and the enclosed car is the ideal model for traveling in an Oregon rain.

But that condition has changed. Now it is almost the other way around. In the short space of two years, the motoring public has learned the lesson of enclosed car advantages and now dealers are having their troubles trying to get enough enclosed models to fill the orders.

The truck men are taking the decision to bar trucks from the show with much philosophy, as they realize there is not room enough for both cars and trucks. It was proposed that they hold a separate truck show in the Armory, coincidental with the passenger car show, tickets to either truck or automobile show to have a coupon admitting the holder to the other. But they are not enthusiastic over this plan, holding that there would not be sufficiene interest in a truck exhibit alone to make it worth while.

In lieu of a show, they are now planning to hold a ship-by-truck run through the Willamette valley over a route of about 300 miles sometime next spring. It is the plan to have all truck dealers enter trucks who desire to do so. The various trucks would then be assigned demonstrations jobs of hauling at various places along the route.

The run would be held on a definite schedule, as tentatively laid out now, but ample time would be provided in the schedule for making stops at various towns on the way and giving hauling demonstrations. Trucks would also be sent into the country districts from each town to haul loads for the farmers and prove to them the great adaptibility of the motor truck to their needs.

The coming show emphasizes the extent to which Portland has become an automobile distributing center. As a matter of fact the 65 cars of different makes for which space has been booked do not include all the cars now represented in Portland. The total number of cars of different makes now in the hands of distributors or dealers here is 79.

Preparations for the show are in full swing. Manager Wilkins has been authorized to spend $5,000 in decorations alone, and another $2,000 has been appropriated for entertainment of visiting dealers, which will include a jinks one night of the show in the city auditorium, to be especially engaged for the purpose.

Heavy Travel Over Ridge Route.

An average of 576 persons per day, or 17,280 per month, plus 10,000 per month by the Eldorado stages, making a grand total of 27,280 per month—that is the average travel over the Ridge Route, now open permanently, between Los Angeles and Bakersfield via the Tejon Pass. In the pass is the only unpaved portion, ten miles. It is described as a marvel—the Grapevine Twist, on account of the many detours, with the Gashouse section, reached after bumping and twisting over the first seven miles northward from Lebec, the worst part of the section. The immense travel is responsible for the awful condition of the detours. The State Highway Commission is doing what it can to alleviate the sufferings of travelers until the section is paved, by having their vehicles pulled from holes, "free gratis for nothing."

Takes Roamer for New South Wales.

W. Burton Hipsley, Sydney, New South Wales, has taken on the line of the Barley Motor Car Company for that province. The first shipment of cars has gone forward to him via San Francisco. He was a recent visitor at the factory in Kalamazoo, where the order was closed.

Moline-Knight Returns to Coast.

Post-war models of the Moline-Knight car are due to arrive in Southern California and Arizona in the very near future, according to W. B. Conditt, of Los Angeles, who has been appointed distributor. In addition to the four-cylinder car produced before the war there will be the Moline-Knight Six, which has been undergoing tests for two years by engineers at the great plant of the Root & Vandervoort Engineering Co., East Moline, Ill.

More than two years the Moline-Knight was represented in Los Angeles by a factory branch; this was discontinued after the beginning of the war. Conditt, well known in the local trade and a Knight-engine enthusiast, has opened quarters at 951 S. Flower St.

R. D. Maxwell Retires.

Robert D. Maxwell, of the firm of Maxwell & Hoffman, who ten months ago took over the retail distribution of Studebaker cars in Los Angeles, has retired from the company, to devote himself to less strenuous pursuits than the automobile industry, which he has followed for many years. He remains chairman of the firm's board of directors. Entering the industry via the tire business, Maxwell worked up to Los Angeles branch managership for the Studebaker, then went to Birmingham, Ala., as distributor, later sold a large business at a lucrative price and returned to Southern California to become associated with Paul G. Hoffman.

King Eight in Southern California.

Regular distribution of the King Eight car in Southern California will be resumed with the Pacific Motor Co., of Los Angeles, as distributor. King Eight Road Kings will appear in Los Angeles to satisfy in some degree the holiday trade, according to Stephen I. Kux, general manager, and A. W. Young, Southern California manager of the agency.

The Road King for 1920 contains a hundred new refinements, according to the makers. Its design is a straight line effect, avoiding the bevel edge. The smart body has a counter-sunk space in the deck for a spare wheel. The top is easily and quickly lowered or removable altogether.

Liberty Six in Southland.

The distributing agency for the Liberty Six in Southern California and Arizona has been taken by the McKelvey Motor Sales Co., of Los Angeles. C. W. McKelvey is president; he has fourteen years' experience with the motor trade and has numerous friends from El Paso to Seattle. Early in February the firm will occupy its new home now being built at Tenth and Flower Sts.

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How They Grew in Washington.

There are now one hundred times as many automobiles in Washington as there was twelve years ago, as shown by the following statistics published recently by the Washington Automobile Chamber of Commerce, which also shows the automobile's rise as a state revenue producer:

1907	1,288	$ 2,576
1908	1,559	3,118
1909	4,227	8,454
1910	6,011	12,022
1911	10,311	20,622
1912	14,480	28,960
1913	24,096	48,192
1914	30,208	60,416
1915	46,000	238,707
1916	70,032	352,470
1917	103,001	525,573
1918	131,307	885,735
1919 (Aug. 31)	146,000	2,137,945

McCoy Heads L. A. Portage.

J. W. McCoy has assumed management of the Los Angeles branch of the Portage Rubber Co., of Akron, O. When he left the factory a reorganization in manufacturing and sales departments was being made and a strong campaign will be launched for Portage products. Previous to his Portage connection, McCoy was associated with the B. F. Goodrich Co., of Akron, O., Toronto, Canada, and Minneapolis, Minn.

Nelson Car Dealer in S. F.

The Dock Motor Car Co., of San Francisco, has taken the agency for the Nelson car famous for its airplane engine. The firm, temporarily located on Market St., is having erected a $33,000 building at 137 Hyde St.

T. A. Mitchell Travels East.

T. A. Mitchell, head of the Mitchell Mfg. Co., of San Francisco, is now making an Eastern trip, visiting the different factories, for which his company is representative. He will visit Chicago, Detroit, Cleveland, Boston, New York and other points in the East.

Takes Denby in San Francisco.

The Denby truck agency for Northern and Central California has been taken by the newly formed Pacific Coast Motor Sales Co., Inc., of San Francisco. John Bermingham, Jr., for years head of the DuPont and California Powder Works on the Coast, heads the new firm. O. V. Eccles is sales manager. The Denby is built in one, two, two and one-half and five-ton sizes, equipped with the Continental engine.

Altitude Record for Cleveland Six.

The Peacock, Alexander & Hunter Co., San Francisco representative for the Cleveland Light Six, has given that car an "altitude" record. A member of the organization drove a Cleveland stock car up the Placerville Lake road in the California Sierras to the summit of the highway which is 7,630 feet above sea level. The car finished with a perfect score. It is the first Cleveland car to make an "altitude" record and has been christened the "Sierra Pioneer."

Solid Bottom for Truck Highway.

The twenty-mile motor truck highway which is to bridge the distance between Los Angeles and its harbor will be one of the most solid ever built and will stand up under the heaviest motor truck traffic yet seen.

Contracts for the first stretch of road have already been let, calling for a solid rock bottom, concrete 8 inches thick (as against 5 inches for other state and county highways) and roadway 24 feet wide.

The boulevard will be a model highway, costing $40,000 a mile to build. En route to the harbor it will traverse the most densely populated districts possible, without unduly deviating from a direct route.

Southland Briscoe Men Meet.

Briscoe dealers, sales heads and salesmen of Los Angeles and nearby Southern California points held a get-together meeting recently, presided over by Frank O. Renstrom, distributor for the Briscoe car throughout California. The appointment of two new officials at the Los Angeles branch, Edward F. Harris as assistant sales manager, and H. A. Meisel, used car and truck department manager, were announced at the meeting.

Much of the discussion centered on the recent 51.2 miles to the gallon performance of a Briscoe car driven at Pomona by M. W. Zander, Briscoe dealer there, who attended the meeting and explained the reasons of engine design enabling such a record of fuel economy.

Samson Official Heads Hardman.

William Mackay now heads the Hardman Rubber Corp., of New Brunswick, N. J., as president. The company was recently taken over by the Stanwood Rubber Co. Mackay is also vice-president of the Samson Tire & Rubber Co., of Compton, Cal., and president of the Mutual Tire & Rubber Co., of New York City.

Greater Motors to Build.

Another Seattle firm, the Greater Motors, Inc., handling Templar and Daniels cars, is to add to the city's list of fine automobile sales buildings. At Melrose Ave. and Pike St. the company is to have erected a one-story home, faced with white terra cotta, and containing a mezzanine floor and accommodating all departments.

TRAFFIC PROBLEM IS SERIOUS IN L. A.

Abolition of Parking in Downtown Streets Suggested as One Remedy —Pedestrians to Be Regulated.

Cities may have their water, light, fuel, transportation or rent problems; confronting Los Angeles, besides several of those already named, is the traffic question. Automobiles, of course, did it. When about one-half of 63,000 automobiles crowd into a two-square-mile area, traversed by narrow streets laid out in Spanish days, between 2 and 6 o'clock every week-day afternoon, there is bound to be congestion. Added to this there are said to be 16,000 "foreign" cars in the city now.

Accordingly, the big case for discussion before the Los Angeles city council is ways and means of traffic relief. One suggestion is to absolutely prohibit parking along all downtown streets within an area not yet determined—a drastic measure, but strongly supported in many quarters as the only means of relief. Also, there are five recommendations from the city committee of public utilities:

First—Elimination of left-hand turns between First and Tenth Sts. and Los Angeles and Figueroa Sts.

Second—Stopping of automobiles at street crossings 25 feet back of the property lines.

Third—Regulation of pedestrians in the congested districts, compelling them to obey signals at street intersections as implicitly as vehicle traffic must.

Fourth—Loading and crossing of street cars in tandem.

Fifth — Strict regulations governing switching of trains on steam lines during heavy traffic at rush hours.

U. & J. Carburetors on Coast.

The U. & J. carburetor, manufactured in Chicago, is to be represented and distributed on the Pacific Coast by the U. & J. Sales Co., of Spokane, Wash. H. A. Fitch and W. B. Vestal head the company, which has opened general offices in San Francisco, with Spokane as distribution center for the Northwest.

Miller Promoted by Firestone.

Announcement of the promotion of A. L. Miller, salesman at the San Francisco branch of the Firestone Tire & Rubber Co., to be special pneumatic sales representative in the same district, is made from the Akron offices of Firestone.

Ace Truck in Oregon.

The Auto Sales Co., of Portland, Oregon, has taken the agency for the Ace truck in Oregon and the Columbia river counties of Washington.

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OVERLAND TRAVEL STOPPED BY STORM

Motor Touring via Trans-Sierra Routes at Standstill—Roads Through Arizona Open—Coast Travel Fine.

The peak of California-bound motor tourist travel has been reached and passed. Severe weather has forced tourists off the northern transcontinental highways and heavy rainfall has made roads in the balmier sections near the Mexican line unpleasant to travel over. The open season for Easterners motoring to the Coast has closed earlier than last year, but 1919 undoubtedly broke all records for cross-continent travel.

Improved highways between the Pacific Northwest and California have enabled Washington and Oregon to hold their own in the way of their annual quotas of tourists, but this year about one out of every four "foreign" automobiles seen in California came from east of the Rockies.

Arizona and Utah were well represented, but Missouri, Kansas and Nebraska ran stronger than ever and Maine and Louisiana-tagged cars were not unusual. West-bound travel through Soccoro, New Mexico, must necessarily be from the East. During October 1,600 machines passed through that town westward and 500 eastward.

The lure of the Pacific Coast overcame the well-grounded fears of bad roads, and every traveler testifies to the astonishing volume of long-distance vacation traffic. "Why not go to California and tour the paved roads after we get there?" is a common phrase in the East. A large proportion of cars did not get there. Their owners lost heart after struggling through hundreds of miles of rough going and shipped their cars by train.

The Automobile Club of Southern California expects to handle the shipments of 150 cars to the Coast, valued at around $285,000, before the winter season is over. The club gives its service free of charge, saving about $40 or $50 on each car. Commercial companies will handle like quantities.

Motor travel on the Lincoln Highway has been stopped by heavy snows, especially in Wyoming. Travelers have been forced southward to the Santa Fe trail and even here ran into snow in the plateau region of Arizona. In New Mexico heavy rains compelled about 40 miles of low-gear travel and one traveler reports having seen twenty-seven cars stuck in one bad mud-hole west of Flagstaff, Ariz. Out of another cavalcade of thirty-one cars, ten broke down. Fifty cars were counted in Arizona garages, waiting for train shipment to the Coast.

The Santa Fe trail seems best suited at present for winter travel. Hotel accommodations are reported as being better than along any other route and the profuse sign-posting operations of the Automobile Club of Southern California has brought much praise. Roads are fairly good and grades fairly easy.

Under fair weather conditions about 150 Eastern-owned cars used the National Old Trails route a day this year. According to the Automobile Club of Southern California, about 15,000 cars will travel it before Jan. 1, 1920. In California their touring officials counted seventy-five "foreign" cars between San Bernardino and Barstow in three and one-half hours.

Between Los Angeles and Phoenix travel is brisk in all seasons. There is the choice of two routes—via Needles and Parker and via Mecca and Blythe. Being 100 miles shorter, the latter carries the bulk of travel.

Added to the hazards of bad roads, automobile thieving seems to be flourishing on an organized scale between Phoenix and California. This usually means stripping of cars temporarily abandoned or at night stands, presumably for liquor, but the thieves do not discriminate when other articles of value are found.

Once crossing the California line, tourists from the north or east find their worst troubles past. Eastern Washington roads are in bad condition, especially around Ellensburg and Easton. In southern Oregon the Pacific Highway is yet a dream. Mud in large quantities, persisting into northern California, varying from gumbo to soapy clay, is reported. Road work in the Siskiyou Mountains and slippery going between Medford and Glendale compel very slow traveling. Between San Francisco and Los Angeles the inland paved route was recently reported as good, except for a nerve-wracking two-mile detour on the Ridge Route over Tejon Pass; and uniformly good on the Coast Route in fair weather, except for a difficult detour south of Santa Maria.

Portland Permits 6-Ton Trucks.

Because the Oregon state motor vehicle law does not permit the licensing or operation on state highways of motor trucks with rated load-carrying capacity greater than 5-tons, the city of Portland, Oregon, has had to pass a special ordinance to license and permit the operation within the city of two 6-ton Doane trucks recently received there by W. P. Fuller & Co. If the trucks venture outside the city limits, their owners are subject to arrest by state officers.

Weaver Lays Fears to Rest.

Chester N. Weaver, head of the Northern California Studebaker organization and one of the best known men in Coast automobile circles, returned from an Eastern trip recently. His report is optimistic.

"The steel strike is nearing a settlement and shortage of materials resulting from strikes will not materialize, so Eastern factory men believe. Which means that the output of cars will not be substantially reduced and that distributors need not worry over curtailed allotments on this account.

"Furthermore, the coal strike situation will be adjusted in the near future, according to prominent automobile men, and factories will have plenty of coal to tide them over the time until the miners get back to work."

Thus, before they handicap production seriously, these two menaces to the automobile industry's welfare will be happily settled, Weaver is convinced. The outlook for the whole industry is good. Demand holds strong from all sections and California dealers still have difficulty securing enough cars to fill orders. Spring and summer will see a further increase in demand from the East. Production, indeed, will have a hard time keeping pace with demand.

Lexington Agent in Spokane.

G. L. Turner, of Ellensburg, Wash., has taken the Eastern Washington agency for the Lexington car. He has opened sales quarters in Spokane and has contracted to handle fifty cars before the ending of the fiscal year, July, 1920.

Washington Owners Pay Highest.

Why, why, why? queries the Washington Automobile Chamber of Commerce, submitting some statistics concerning the high cost of Washington motor vehicle license fees, compared with those in other states:

	Washington	Average Other States	Excess
Ford	$10.25	$ 7.72	$ 2.53
Dodge	15.05	9.01	6.04
Studebaker	21.05	11.45	9.6
Pierce-Arrow	30.65	15.87	14.7
1-ton Ford	18.25	7.32	10.9
2-ton Signal	60.65	15.10	55.5
4-ton Signal	67.85	24.21	43.6
5-ton Federal	79.45	39.21	40.2

The figures show that Washington motor vehicle owners pay the highest license fees of any state in the Union.

Braender Expanding on Coast.

The Braender Tire & Rubber Co., of Rutherford, N. J., has opened a branch warehouse in San Francisco, Cal., at 133 Eighth St., according to a recent announcement. J. E. Allen, sales manager, was a recent visitor to the Coast where the company is erecting a strong and efficient distributing organization

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New Moreland Plant Ready Feb. 1.

The fact that nothing but home products go into the building of the large new manufacturing plant of the Moreland Motor Truck Co., now building at Burbank, Cal., has been a "life-saver." Had orders for the steel work of the buildings been placed in the East, torn by labor troubles, coal shortage, material shortage and stagnation of shipping facilities, the 28-acre location for the new Moreland plant might be even yet no more than an excellent field for the production of beets, lettuce and other crops.

All of the steel work was made in the mills of the Llewellyn Iron Works, Los Angeles, and the natural delay due to general conditions was no more than a few weeks. Freight trains and railroad tie-ups were avoided and steel work was trucked on powerful Moreland truck models direct out to Burbank in record time.

Consequently, while unable to occupy its new plant by Jan. 1, as first planned, the company will be in its by Feb. 1. Plans are made for speedy removal from the congested North Main St. plant, straining to at least keep in sight of the demands of its customers.

The fine new administration building at Burbank, to house the executive offices, engineering department and cafeteria, is entirely completed, except for some interior carpenter work. Units No. 2 and 3, of concrete and steel, with saw-tooth roofs to give the greatest possible degree of light for the workers, is practically completed as to the exterior. No. 2 contains the machine shop, assembly department and stock department; No. 3, the test, paint and body departments. Unit No. 4 is the home of the forge shop, riveting, heat treating and sand blast departments. It is of monitor type, entirely of steel and fireproof.

Columbia and Maibohm in Oregon.

The Beaver Motor Car Co., Portland, Oregon, has taken the state distribution of the Columbia and Maibohm sixes.

Battery Men Organize.

Storage, battery men of Portland Oregon, have formed an organization, patterned after that in California. H. M. Nesbit, of the Columbia Storage Battery Co., is president, and F. Bischoff of the Storage Battery Co., secretary.

Big Sales Bldg. for Van Ness Ave.

Distributing activities for Peerless cars and trucks and Republic trucks in San Francisco are to be housed in one of the finest and largest automobile sales buildings to be erected on Van Ness Ave. On the southwest corner of Van Ness Ave. and McAllister St. and reaching to Ash Ave., the Pioneer Motor Car Co., Peerless and Republic agents, will have built a five-story building, containing 132,000 square feet of floor space and costing $425,000 to build.

Rolls-Royce Branch in S. F.

The Rolls-Royce Automobile Co., an English corporation, will open a factory branch in San Francisco, according to Lieut. A. E. Smith, of Winnipeg, Canada, a recent Coast arrival. He expects to head the new branch. The English firm is planning a completely equipped factory at New York to build cars for the American trade.

City Licenses Trucks.

Redlands, California, is now compelling every motor truck in the city to take a city license. The owner of one truck will pay $25 a year, two trucks $40 a year and for more than two, $10. Truck owners must help pay for the upkeep of paved highways, the city trustees say.

CALIFORNIA LICENSE FEE NOT DUE TILL FEBRUARY 1.

Motor vehicle license fees in California are due February 1, not January 1, next year. They will be delinquent March 1. Between January 1 and 15 the Motor Vehicle Department will mail to registered owners instructions for applying for licenses under the new requirements, and it is requested that applications be not made until these instructions are received.

Oregon to Show 83,500 Cars.

Motor car registration in Oregon for 1919 will total approximately 83,500, according to figures from the office of the secretary of state. This is an increase of 20,175, or 24 per cent, over registrations for last year. These figures include trucks as well as passenger cars. At the same rate of increase in 1920, Oregon will have 105,000 cars and trucks a year from now.

The number of cars in the state is now 600 per cent greater than in 1913, the year before the war. In that year Oregon motor car registrations totaled only 13,957, the total gain to date being 69,543 in only six years.

O. C. McFarland Returns.

The agencies for Paterson Six cars and Duplex 3½-ton trucks in the San Francisco territory have been taken by the newly formed McFarland Motor Co., of that city. The event signalizes the return to the trade of one of its pioneers, O. C. McFarland. Up to within three years ago he was associated with the firm of Osen-McFarland Co., handling the Mitchell in Northern California, well known and possessed of numerous friends. Then agricultural interests claimed him and he retired from things automotive.

INFLATION SCALE DON'T FIT COAST

Miller Tire Representative Says S.A.E. Formula is Not Conductive to Maximum Mileage on Our Roads.

Considerable discussion has arisen on the Western Coast over the inflation scale recently adopted by the Tire and Rim Division of the Society of Automotive Engineers. The Western theory seems to be that no standard inflation scale will fit all conditions—that the load carried in the car is most important in determining the amount of necessary air pressure, and that the road conditions alter every standard rule.

H. O. Alexander, special representative of The Miller Rubber Co., with headquarters at San Francisco, says: "According to the S. A. E. scale, a 5-inch cord tire should carry a pressure of 80 pounds. Undoubtedly that may be true from the standpoint of an average pressure for maximum riding comfort, but, on the splendid roads of California those figures are by no means conducive of maximum mileage.

"For utmost mileage, we inflate Miller 5-inch Cords from 100 to 120 pounds. Of course, such hard pressure would make riding over rough roads much more uncomfortable than with an 80-pound pressure, but the point of it is that the tires will give longer service with the increased pressure.

"Furthermore, the S. A. E. scale is not definitely applicable in all cases for the simple reason that every tire should be inflated strictly according to the work it is doing and the load it is carrying. In fact, the S. A. E. never intended that the rule should be applicable in all cases. It named a general scale designed for the average car in which maximum riding comfort is desired as well as a reasonable amount of tire mileage.

"The whole pressure problem reverts back to the one basic fact that the tire is built around and it must be inflated to hold that shape. Therefore, if 60 pounds will keep a certain sized tire up, then that is enough pressure for that tire at that time. The safest rule to follow when long mileage is desired is to always see that the tire is pumped up actually hard."

Roamer Popular in Arizona.

Lieut. Everett Rowe, distributor for the Barley Motor Car Co., in Arizona, reports rapid growth of business in his territory. He is son of F. F. Rowe, owner of the Kalamazoo (Mich.) Gazette.

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BUSINESS FINE ON S. F.'S MOTOR ROW

New Agencies, New Buildings and New Models Noted by "Motor West" Correspondent in His Travels.

New distributing agencies in San Francisco are those for the Nelson car, taken by the Dock Motor Car Co., of that city; the Dixie Flyer, handled now by the Golden State Motors Co.; the Paterson Six car and Duplex truck, to be represented by O. C. McFarland, a pioneer San Francisco dealer, who returns to the trade after two years' retirement; and the Denby truck taken by the Pacific Coast Motor Sales Co.

Among the latest announcements of new buildings is that of the Pioneer Motor Co. for a $450,000 building, to go up at Van Ness Ave. and McAllister St. The new Nelson dealers also are erecting a $33,000 building on Hyde St. Other automobile sales buildings which will be ornaments to Van Ness Ave. are also in various stages of completion for Al. G. Faulkner, the California Motor Sales Co. and the Peacock Motor Sales Co.

Newly arrived models are the Hudson limousine, Biddle sedan, Stearns seven-passenger and three-passenger roadster models; Biddle sedan, National Sextet, Essex roadster and Lex-Sedan.

Immediate deliveries are possible on Briscoe, Mitchell, Kissel, Chandler, Dort, Packard, Biddle in limited numbers, Oldsmobile, Stearns roadster, Haynes, Mercer, Allen, Maxwell, Cleveland and Moon cars.

Retail deliveries have started on the new Overland Four. The Charles H. Kaar Co. has recently received substantial shipments of Lex-Sedans. The arrival of a new allotment of American Balanced Six cars is reported by Al. G. Sommerville. The Miller-Rector Co., Allen car, is now making many deliveries to out-of-town dealers.

Greer-Robbins look optimistically to the spring season, as regards deliveries on both Chalmers and Hupmobile. On the latter line they have been one of the few large wholesale firms who have been providing cars to dealers at the expense of retail sales and shortened profits. By spring Chalmers cars will undoubtedly be on hand in greater numbers. C. D. Rand, Mercer, has received another shipment, the first lot quickly disappearing on arrival.

There is very little falling off in general demand, for dealers are just beginning to overtake orders impossible to fill during the summer. According to the Charles H. Kaar Co., Lexington, they could have sold ten times as many cars as they have on hand. During a recent week the Frawley Motor Co. sold 91 Mitchell cars, this being ascribed to realization by buyers of the shortage that follows the Christmas period.

San Francisco dealers will have opportunity to exhibit their cars one month before the fourth annual Pacific Automobile Show, to be held Feb. 21-28, this advantage being given by the Oakland Automobile Show, Jan. 19-25, the earliest important show in 1920 and from which the Pacific Coast show season will "take off." Robert W. Martland, well known from his connection with the California Automobile Trade Association, will act as manager of the Oakland show, to be held in the Civic Auditorium.

Tire Expansion Brings Its Changes.

Prosperity, in volume never seen before, is bringing manifold changes among tire factory branches and dealers an the Pacific Coast.

The Kelly-Springfield Tire & Rubber Co., factory branch, has announced that tires will be sold direct hereafter in its territory; at the same time F. H. Hearsch becomes Western district manager and F. C. Harris, San Francisco branch manager.

George Bellis, former Los Angeles branch manager for Goodyear, has been advanced to district manager of the Pacific Northwest, with headquarters in Portland.

R. H. Chase has been appointed special Pacific Coast representative of the Norwalk Tire & Rubber Co., with headquarters with the Lichtenberger-Ferguson Co., Coast distributors for Norwalks.

The Braender Tire & Rubber Co. has opened a branch warehouse in San Francisco; J. E. Allen, sales manager, was a recent visitor on the Coast and the company is building a strong Coast dealer organization.

Heath Back With Old Chief.

William C. Heath, recently identified with the Los Angeles organization of the Frank O. Renstrom Co., has returned to San Francisco, his former field of activity, there to join his old chief, L. M. Field, one time general sales manager for the Renstrom organization.

Field resigned from the Renstrom Co. to organize a new company, the Associated Motors Co., of San Francisco, of which Field is president and general manager; William C. Heath, vice-president and sales manager; and E. S. Nevins, treasurer.

The new firm has the distribution of the Selden truck and the Davis car, with Northern California and Nevada as sales territory. They have opened general offices in San Francisco in the Hewes Bldg., at 995 Market St.

"Chip in" for Venice Yuletide.

Ever since the alcoholic drought set in last Summer the public exchequer of Venice, Southern California's world-famous resort, has been experiencing a decided crimp. Recklessness superinduced by an over-indulgence in liquids which cheer and enebriate is seldom encountered nowadays, and fines have been few and far between.

With Christmas in the offing, and the metal showing at the bottom of the municipal strong box, orders have been issued to the city's motorcycle "cops" to see to it that the 20-miles-an-hour local speed ordinance is strictly adhered to everywhere within the city limits, as also the 8-miles-an-hour ruling applying to travel on the "Speedway." The "cops" are obeying orders, and the treasury already feels much better, thank you.

Last week's bag was decidedly encouraging, and before Christmas Eve the officials hope to have made up in a measure the deficit occasioned by the demise of John Barleycorn.

Meanwhile it behooves the thousands of motorists who weekly journey to Venice to slow down to the 20-mile mark when they enter the sacred precincts of the famous resort; or journey elsewhere until the present Venetian financial stringency shall have been overcome.

Oregon Has Some Lava Roads.

Some of the worst roads in the Pacific Coast region are those encountered by motorists traveling north or south through the country on the inland side of the Cascade Mountains in southern Oregon, that is, the region of the famous Crater Lake, one of the country's scenic wonders.

Between Crater Lake and the town of Bend motorists must drive for miles through volcanic ash that is chuckful of chuckholes. The differential housing strikes the ground repeatedly. Good motoring citizens have filled in some of the holes with branches of trees.

The huge chunks of lava encountered are hard and almost as sharp as a knife blade. They slit automobile tires easily and make repairs necessary even if the casing is not cut through.

Heads Sales for Shellback.

Charles F. Fletter, late captain in the United States army engineers, has been appointed sales manager of the Shellback Motor Sales Co., of San Francisco, distributing Moon cars.

Master Carburetor in New Plant.

The Master Carburetor Co., of Los Angeles, Cal., has announced recently the occupancy of its factory, the largest of its kind in the West, located at Main and Thirtieth Sts.

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EASTERN DEMAND CUTS DELIVERIES

Los Angeles Dealers Report Slight Improvement in Situation as Compared With Fortnight Ago—New Cars.

In previous years the falling off of Eastern car buying at the opening of winter has enabled Pacific Coast automobile dealers to accumulate large supplies, which left them in a comfortable position of being able to make prompt car deliveries both during winter and early spring. Such is not the case this year. Easterners realize the country-wide demand for automobiles; they are taking no chances and are placing orders in large volume. If they can't use their new cars now, they will at least have them ready when spring opens. Many large Eastern distributors report deliveries sold as far ahead as April, 1920.

Dealers in Los Angeles are, however, meeting the demand. Immediate or reasonably prompt deliveries are promised on Kissel, Moon, King Eight, Mitchell, Columbia Six, Briscoe, Case Six, Essex, Oldsmobile, Haynes open models, Auburn, Elgin, Stephens and Winton cars.

Several new models of established lines have recently appeared: Templar Sportette, National Sextet, King Eight Road King, Holmes, Case four-passenger sport model, Studebaker Series 20, Standard Eight, Elgin sport and touring cars, Crow-Elkhart and the new Pilot Six line. The Biddle car has entered the Southern California territory, the agency being taken by Dowling & Fisher; the King Eight, by the Pacific Motors Co.; the Liberty, by the McKelvey Motor Car Co., and the Moline-Knight, by W. B. Conditt & Co.

For the first time in several months deliveries can be made on Road Kings, announces the Pacific Motors Co. After Feb. 1 the Liberty Six allotment will be doubled and deliveries will speed up; meanwhile the new agents are erecting sales quarters at Tenth and Flower streets.

On Mitchells the Security Motor Co. can make deliveries for a short time, but the next shipment to Los Angeles will not be till February. Retail deliveries are at last being made on the Cleveland Six and several substantial shipments are en route. The Stutz allotment for the new year will be materially increased, Walter M. Brown expects, and he hopes to be making quick deliveries soon. A. E. Evans has been able to induce increased Paige shipments, while Pilot cars of all models are ready for delivery, according to the Aston Motor Co. Regular shipments have begun on the Holmes air-cooled car, taken by the United Corp. recently, and several carloads are now on the way.

A factory visit by Stanley W. Smith secured a larger allotment, but not as much as he hoped. Templars have arrived and the Boulevard Motors Corp. has reorganized and enlarged its sales department. More Velies are going toward Los Angeles now, states the Lord Motor Car Co., than to any other part of the country. Greer-Robbins report a large Chalmers demand, due to many persons buying to make a Christmas present of the mere acknowledgement of the order.

The Moline-Knight agency has been taken by W. B. Conditt, marking a return of this car to active Southern California distribution. First shipments are to arrive around Dec. 15 and regular shipments in January.

The Collier and the Dorris are new motor trucks in the Southland territory; the first is now established in West Pico St. quarters, while Albert G. Russell has added the Dorris truck to his agency for Dorris and Templar cars. Immediate deliveries are promised on Selden, Jumbo, White 2-ton, Moreland, Gary, Velie, Clydesdale and Transport trucks.

Among notable business visitors of the trade seen recently in Los Angeles are R. C. Rueschaw, vice-president and general manager of the Mitchell; J. V. Mowe, assistant general sales manager of the Kelly-Springfield Tire Co., and Lynn McNaughton, sales manager of the Cadillac.

Garage owners in Los Angeles are to organize into an association. Storage and car-washing rates are to go up besides. Storage will cost $12 to $15 a month against $8 to $12 at present; 24-hour storage, 75 cents, instead of 50 cents; washing cars, $3, against $2. The monthly minimum for storage alone will be $10. The raise is blamed on 25 per cent higher garage rents, compared with last year, and between 50 and 75 per cent higher labor costs.

Brent Harding a Tire Merchant.

Brent Harding has followed the lead given by Barney Oldfield and Earl Cooper. After being for several years a member of the Hudson racing team, then racing all over the Pacific Coast this year, coming out again and again a prize winner, he has allowed the tire industry to claim him. Harding is now manager of the Auto Tire & Accessories Co., of Fresno, with several other Valley branches, handling Mason tires and several other well-known lines.

Agent for Mac-Lar Battery.

Joseph Bucher, of Joseph Bucher & Co., of Los Angeles, Cal., has taken the distributing agency for Mac-Lar batteries in Southern California.

Oakland Show First of New Year.

To Oakland, California, goes the honor of holding the first big automobile show of 1920. It will be staged in the Oakland Auditorium and the date is Jan. 19-25. This year's show will be under the auspices of the motor car dealers' division of the Alameda County Trade Association. A show committee has been formed and has appointed as show manager Robert W. Martland, well known official of the California Automobile Trade Association.

Oakland dealers expect that practically the same models will be unveiled in their city as are shown at New York and Chicago national shows. Motor car lines and body styles and the numerous mechanical refinements will thus be introduced almost simultaneously in the East and on the Coast.

According to Manager Martland's recent announcement, "the show will be run for the benefit of the motorist, rather than that of the dealer or manager." Thousands of dollars will be spent on decorations and there will be no rein on the purse strings of the Association to produce a show that will be long remembered.

Hand Signals Part of Cal. State Law.

"Limp and languid hand signals" are being made the subject of complaint by many members of the California State Automobile Association. Members say that many drivers are failing to give any signals at all, while others thrust a gangling arm out into the air as if for its health. The limp hand waves hesitatingly and is then withdrawn. Motorists are urged by the Association to not be boneless in giving warning signals, but to thrust their hand and arm out at the correct angles. The hand signal is a part of the new State law and traffic officers intend to rigidly enforce it.

Drive-Away Staged for Rueschaw.

The visit to San Francisco of R. C. Rueschaw, vice-president of the Mitchell Motors Co., of Racine, Wis., was the occasion of an entertainment by the Frawley Motor Co. in which thirty-three new Mitchell models were doled out among twenty Northern California dealers and by them driven away. Fifty-eight other new models were sold and delivered by the Frawley organization itself about the same time.

Braender Official on Coast.

J. E. Allen, sales manager of the Braender Rubber & Tire Co., of Rutherford, N. Y., was a recent visitor to the Coast. His company, he announces, now maintains a branch in San Francisco, has appointed a jobber in Los Angeles and has dealer connections in the Northwest.

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Motoring Trip Over National Park to Park Highway

World's Greatest Scenic Road, 4,000 Miles Long, Links Together the Country's Most Marvelous Natural Beauties, Set Aside by Congress Forever as Popular Playgrounds—Movement on Foot to Improve Highway in "See America First" Campaign

By GUS HOLM'S, President National Park to Park Highway Association.

IN ORDER to fully understand the purpose of the the National Park to Park Highway, it will be necessary for the reader to take an imaginary trip over the entire route; but first a few words about what the officers hope to accomplish by this promotion. An organization of this kind can do two things, viz.:

First: Encourage the building of a given road by picturing the advantages of such road to the towns, cities and counties through which the road passes, expecting that they will then in turn co-operate with the State and Federal governments in building this established road, not only grading and draining, but hard-surfacing the entire distance of about 4000 miles, thereby not only promoting speedy travel, but accommodating every locality through which it passes by means of a thoroughly established road of commercial value, which is needed by all counties and cities.

Second: An organization of this kind can map out a highway and distribute literature in the sections most remote from the road, thereby creating a demand which in turn gives cause for its construction.

It is generally considered that anything that demands patronage becomes of commercial interest, and from a public-spirited standpoint becomes a paying proposition. The present officials of this organization are volunteer workers and everything that is done by this association is for the benefit of the entire West. The work is carried on without any selfish motives whatever, and thus we feel justified in appealing for favorable public opinion.

Now for the trip.

The party starts from any point on this circuit. We will say the party is composed of half a dozen persons in one or more cars equipped either for stopping at hotels or for camping. Either way is perfectly safe, and it is only a matter of choice as to which way one desires to travel. Everywhere now within as well as outside the parks are found fairly good, and in many places first-class hotels. Camping grounds have been provided by the towns and cities and within the parks for the convenience of those who travel with their own camping outfit. The pleasure of the trip is sometimes marred by poor equipment or a car that is not in good repair, and in shape to travel long distances without stops.

The circuit may be reached over any of the transcon-

LARIAT TURNS ON THE LOOKOUT MOUNTAIN ROAD, ONE OF MANY IN THE ROCKY MOUNTAIN NATIONAL PARK.

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GORGEOUSLY COLORED CRYSTAL TERRACES FORMED BY BOILING HOT SPRINGS IN YELLOWSTONE NATIONAL PARK.

tinental highways, but we will say for convenience that this party has entered the circuit at Denver, and after the usual stay in a city so wonderfully attractive, the start is made for the Rocky Mountain National Park, known for its exquisite and magnificent mountain scenery, its snow-covered peaks and its glacier formations. The entrance to this park is made by the way of Lyons and after an attractive mountain drive, Estes Park is reached. This is the entrance to the Rocky Mountain National Park.

The time spent in this park can only be gauged by the time at one's disposal, for there is no limit to the attractions which claim the attention of the traveler. The park is then left by way of the Big Thompson Canyon, in itself a most wonderful drive, to Fort Collins. Here, there should be no need for delay in starting north over the Yellowstone Highway by way of Cheyenne, Casper, Thermopolis, Basin and Cody, because everywhere there are good hotels and garage accomodations. The time required depends upon the distance one cares to drive each day and what plans have been made for stops, but over an improved road the time should be about three days. Along this distance there are many fine attractions, such as oil fields and refineries and small cities with their individual attractions. Midway is found Hell's Half Acre, a bit of "bad land" that is absolutely indescribable. Upon reaching Cody, the eastern entrance to the Yellowstone National Park, the Shoshone Cavern in Cedar Mountain should be visited. These two attractions are National Monuments and form a part of the reason for the Park to Park Highway.

From Cody we enter the Yellowstone National Park over the Cody road, better known as the Scenic Eastern

"OLD FAITHFUL" GEYSER IN YELLOWSTONE NATIONAL PARK, WHICH NEVER DISAPPOINTS THE SPECTATOR, AND CAN BE RELIED UPON TO PERFORM UP TO SCHEDULE.

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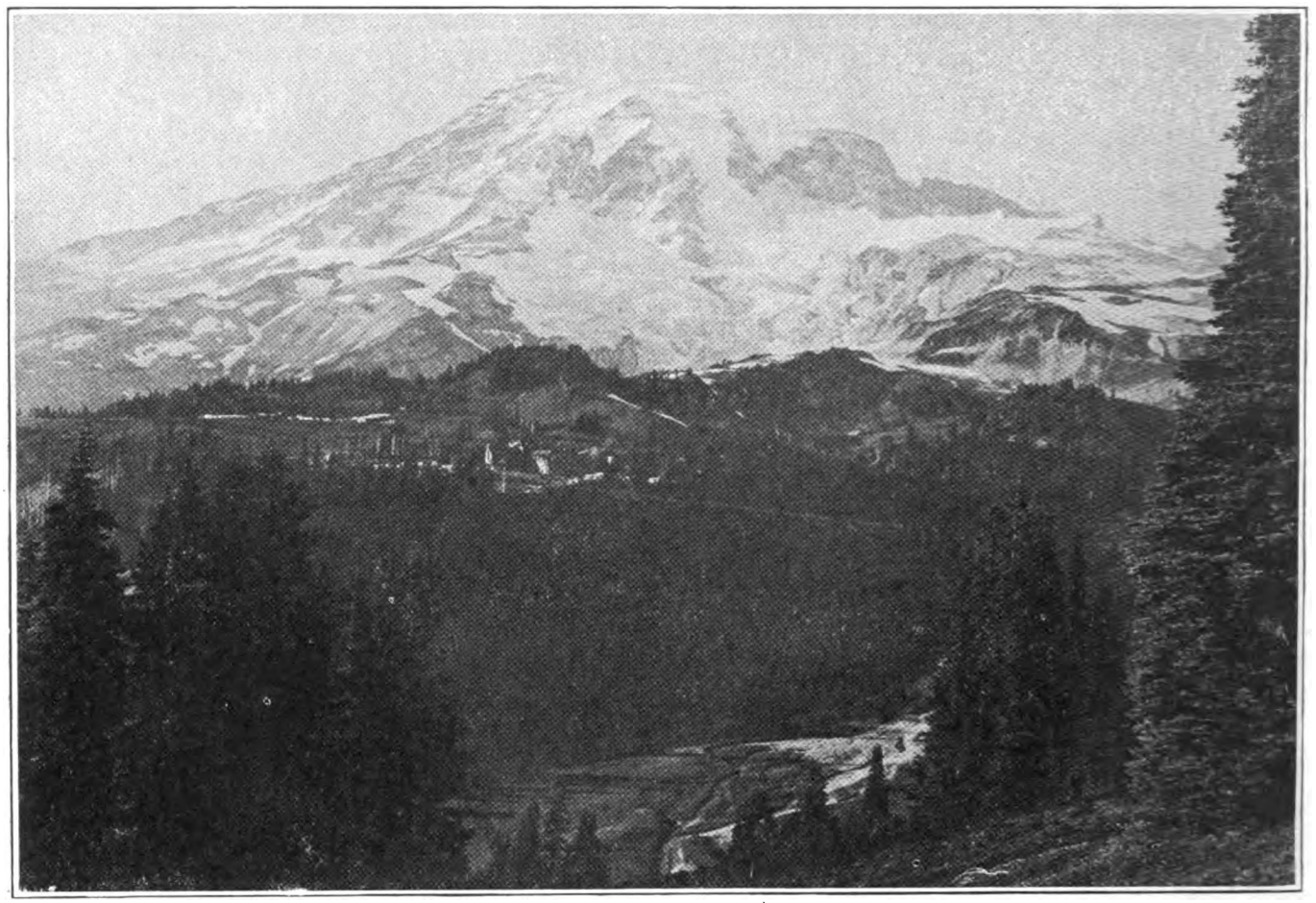
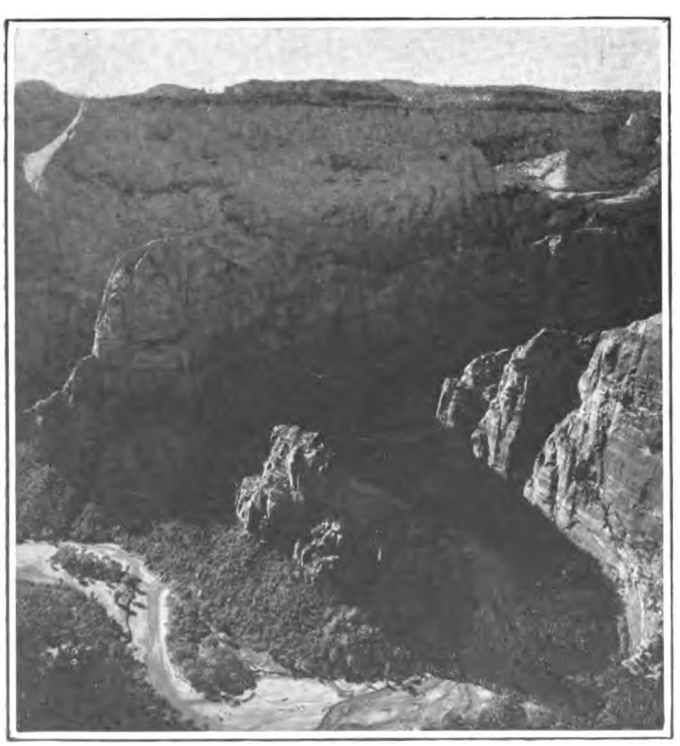


MT. RAINIER AND PARADISE VALLEY, FROM MAZAMA RIDGE. PARADISE INN AND CAMP OF CLOUDS ACROSS VALLEY.

Entrance over a partly Government constructed road. The stay in the Yellowstone National Park depends on the party, which in this case is not in a hurry, as it is now July 15, and the cool climate and pleasant evenings are so much more desirable than the climate and hot nights of the sweltering East that one is in no particular hurry to return, even were it not for the various attractions in geysers, hot springs, and wonderful mountain scenery that makes the Yellowstone Park possibly the most attractive of the National Parks. Its mud pools, lakes and its Grand Canyon are beyond description.



LOOKING DOWN ON ZION CANYON FROM CABLE MOUNTAIN.

The party will leave Yellowstone by the northern entrance over the Yellowstone-Glacier Highway by way of Livingston, Great Falls and the eastern entrance to the Glacier National Park. The stay here depends as before, on the time limit, for one is never in a hurry when visiting the Glacier Park, with its stately mountain peaks and their setting of beautiful lakes which never fail to attract. At present there are two routes being constructed from the east to the west side of the Glacier, and upon reaching the west side it is necessary to make a stay of some days. The Park is well provided with hotels and they are well patronized. The Glacier Park should really be considered in a class by itself, for no other park can offer the class of attractions found there.

On leaving Glacier we visit Kalispell on our way to Spokane. This distance is by no means unattractive. In addition to passing through a number of good little towns and communities, the mountains along the route are replete with scenic attractions.

Spokane is reached. A day or two should be spent in Spokane before starting over the National Parks Highway for Seattle. This trip is made in the heat of the summer, and as the northern climate will be much appreciated during the warm months, the time required to make Seattle

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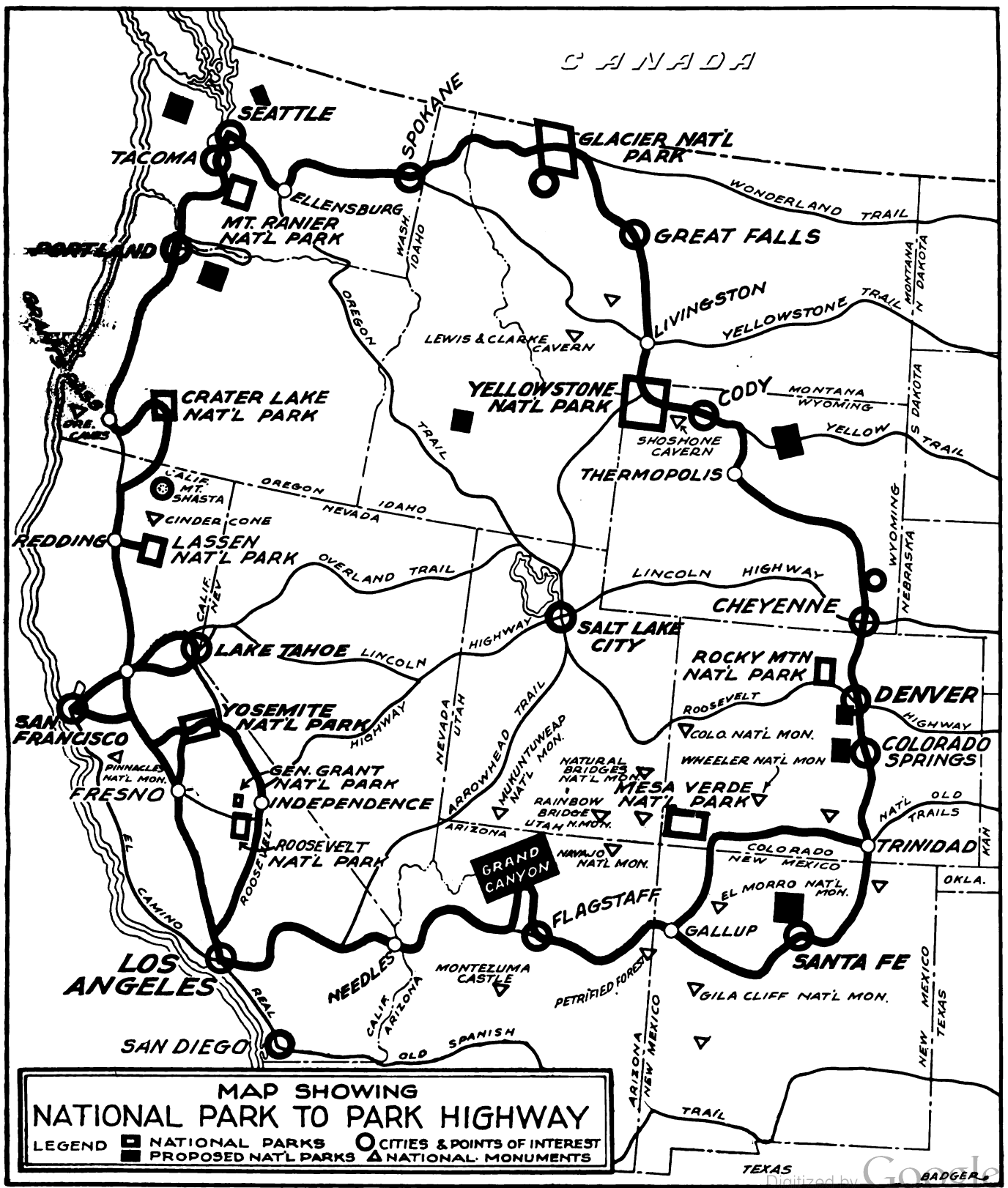
depends on the party. Many attractive towns and points of interest, as well as good hotels, may be found, and perhaps, if time permit, a side trip is taken to Lake Chelan, for in the country surrounding this attractive lake many charming spots may be found.

On reaching Seattle we find on the list two proposed National Parks, each attractive enough to require the time and attention of the party, to say nothing of Seattle's own charms. The longed for trip to Mount Rainier National Park and its noticeably flowing Glacier and meadows strewn with flowers invites the party, and the time required in this God's own country depends on what the party decides upon after considering the sweltering East. However, the start must be made, and unlike the inward trip, which was made via the attractive city of Tacoma, the outward journey is via Elbe, striking the Pacific Highway again at Winlock; then south by way of Castlerock and Kalama, not an unattractive country. The party now reaches Vancouver, just over in Washington from Portland, the city with an inland harbor, and at least one proposed National Park on its list.

(To be continued.)



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Motor West
THE MOTORING AUTHORITY OF THE PACIFIC COAST

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DECEMBER 15, 1919

The Time to be Kind and Co-operative

CHRISTMAS draws near. New Year's is just beyond. Our heartiest good wishes to all our readers, as to both days and all days thereafter—and a wish in addition to all that.

The best results, involving prosperity and happiness, are due to co-operation; the worst results due to lack of it. In his valuable little book, "The Industrial Republic," Paul W. Litchfield, whose theory has been so well exemplified by practice in the Goodyear plant of which he is production manager, the way seems to have been admirably pointed out.

Mr. Litchfield traces the course of the capitalist, who originally was a worker who saved his surplus, and that of the worker who has not done so, hence is not a capitalist. It is shown that the two were of the same origin and that, whether they know it or not, they are "in the same boat" today, and it is up to them whether to "rock the boat" or make it go on toward the happy results so much desired by both.

Let it be a purely economic, horse-sense co-operation, devoid of any unnecessary sentimentalism, but with a maximum of team work to reach a condition which will be better for all. There are books on economics, and magazines devoted to co-operation. Regardless of the names of their editors—some of them weirdly un-American (the names)—they have meat in them. Buy some. Read them. They will surprise you with their facts as to the degree to which economic co-operation is growing in the world, but only as an indication of the degree to which it should grow. It will do much, when understood, to eliminate talk of radical action, overthrow of existing government, and so on.

Basically our social troubles are economic; related to our bread and butter. They can be remedied with astonishing ease, by putting in practice principles such as are used in building-loan associations; such as were used in the thousands of army canteens during the war, which were virtually co-operative buying societies, with stores from which the members got better things for less, and got dividends to boot. The basic idea can be developed easily, as Mr. Litchfield shows, into the profiteers' strongest opponent, and, as industrial republics—thousands of them—in which citizenship and government, he suggests and practices, be based on the same qualification principles as are used in political organization.

At least send for Mr. Litchfield's book. It will interest and inform you; help start you out of the rut and in the right direction toward co-operation without in the least lessening your vim and competitive spirit.

—

What has been said is of general application. What follows applies particularly to the Pacific Coast:

A team must pull together to get there in the right way, in the right time. The various parts of the Pacific Coast, are, in effect, a great unit, a team. They should not "roast" each other; and we are happy to say that as time goes on they do so less and less. It is a common incident that, after a San Francisco or Portland or Seattle or Tacoma man visits Los Angeles or San Diego or Phoenix, he declares, "I'll never again laugh at that town or the claims of its people. The people are all right and their claims are all right; and so are ours."

Atta boy! That's the spirit. Go and see for yourself, if you can, that "the other fellow" in your general region is all right; if you can't go there, take it for granted, because it's so. The opposite practice keeps strangers away from the region altogether, to his loss and to the loss of the finest region in the whole world.

Substitute for Townsend Bill Now Before Congress

AS THE result of analysis by a number of Western men of S. 1309, introduced in the Senate by Truman H. Newberry, of Michigan, for Senator Townsend of that state, and in response to the latter's request for constructive criticism of his bill, a substitute for that measure for a national system of highways has been completed by W. G. Scott, and sent to Washington, where it was introduced in the House of Representatives last week by Congressman John E. Raker.

It differs remarkably from the Townsend bill in being very easily understood, whereas the Townsend bill is very complex and capable of constructions which would be bad for the people.

The Townsend bill provides for bureaucracy. The Scott bill provides for the opposite, while providing for full use of federal and state highway department skill.

The Townsend bill provides for an initial $50,000,000, a temptation to spend much on preliminaries. The Scott bill provides for an initial $10,000,000.

The Townsend bill would appropriate a total of $425,000,000, not one-fifth of the sum needed for the desired 50,000 miles or more of roads. The Scott bill provides for such appropriation by Congress, with accurate data, as may be needed to fit the program.

The Townsend bill would empower a commission of three or five federal employes to ignore state highway departments and their forces in surveying, constructing and maintaining roads. The Scott plan is for state conventions of county non-office-holding delegates, and for regional congresses of state delegates, with federal and state highway department advisers, to quickly but accurately map, plan, specify and estimate the cost of a program befitting each region, with due regard to con-

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nections with other regions; the results to be co-ordinated by a federal commission of ten members, of varied experience and each representing a region, under a Secretary of Highways in a National Department of Highways; and the results to be communicated to Congress.

Compare the two plans—one tedious, impossible of completion in the two-year period specified in the Townsend bill; the other a concentrated action of several thousand competent minds, in the several regions, with axe-grinding, time-consuming delegations and squabbles practically eliminated.

The Townsend plan asks states to give up to a small group of federal employes in Washington the absolute control forever, in every respect, of 50,000 miles of main highways, including main streets in cities now small but which will be large, and unlimited additional area. All this in return for the promise that $425,000,000, a totally inadequate sum, of the people's own federal funds, will be expended. The Scott bill asks the people to give up nothing, for such use of their own federal employes and of their own federal funds.

The Townsend bill proposes empowering the small group of federal employes to make unlimited purchases, without asking bids, right in Washington if they choose, ignoring merchants and manufacturers and open competition in the respective states. The Scott bill proposes that all construction and transactions be through state highway departments, as is done under the present federal aid law.

The Townsend bill in its present shape permits the granting of monopolies on every line of business to a few favored interests if they choose, in or from property abutting upon the entire system, including city streets. The Scott bill proposes no such monopolies.

The Townsend plan could not be worked to a finish, due to the tedious method prescribed and the inadequate appropriation for construction, in a reasonable number of years. The Scott plan, involving co-operative preliminary planning by congresses of the people themselves, with federal and state highway department advice, and by means of an appropriation to fit the program, would make for the greatest possible and most accurate speed.

The Townsend plan does not promise any relief for Western states from unfairness existent in the nevertheless necessary present federal aid plan. The Scott bill provides for extra federal aid to states having less than the national average population per square mile and in which lands are federally held—two factors in the present formula whereby certain states are discriminated against; states which happen to be Western states.

The hue and cry is for the Townsend bill, but opposition to it grows as it is analyzed. The Scott plan is the simplest, most comprehensive, most workable, most representative of the people, of any measure which has yet been brought to our attention.

Significance of the President's Message

THE recent message to Congress by President Wilson touched only the generalities of various important subjects, and the significance of his touching them at all may not strike everyone deeply; but the significance is there just the same. None more so than that in his reference to the need of more attention to agricultural problems.

Production of food and other things which result in food, clothing, etc., is of the utmost concern. Higher incomes avail not if prices soar higher. We have with us the oddity of the purchasing power of the dollar going down because of the higher cost of the things we buy with it, while its value as a product has risen to $1.20 and it is being used by manufacturers of silverwares of various kinds because bullion is scarce and expensive. Silver does not grow on farms, and is used merely as an example to illustrate the need of increased production of all kinds, as the immediate best means of bringing down from its lofty plane the H. C. of L.

The point of particular interest in the significance of the President's reference to this subject, to automotive manufacturers, is the part automobiles, motor trucks and tractors—or should the order be reversed?—will play in making the suggestion an actuality.

How Do You Buy Your Gas and Oil?

WEIGHT and sealer inspectors of New York investigated some 500 gasoline and oil pumps, among approximately 1,100. Dishonesty was revealed. Much publicity followed.

Will the investigation save money for motorists in New York? Temporarily, yes. Permanently, only for those who buy gas and oil with the same care with which they buy merchandise. As an automobile owner should know how to grind valves and adjust bearings, so he should know enough to get out of his machine when ordering gas and oil and see that all's well with the deal. The man who knows least or cares least gets "done." That is one of the little unpleasantries of life.

It is not fair to charge the dishonesty, as to oil and gas, to the manufacturers of gasoline measuring devices. "Motor West" is assured by Charles E. Pask, advertising manager of the Wayne Oil Tank & Pump Co., of Fort Wayne, Ind., that every inside or outside measuring device made by his company, as well as every such device made by any reputable maker of pumps, is thoroughly tested for accuracy according to the United States standard regulations, in the factory before being shipped, and that unless improperly installed it will deliver accurate measure.

Where dishonesty in the delivery of gasoline and lubricating oil direct to the user's tank has been proved, the fault has invariably been traced to dishonest pump operators, who manipulate the pump to their advantage and to the loss of the retail buyer.

When it Rains in Los Angeles

THE "rainy season" is on in Los Angeles. To inform our Eastern readers, be it said that the average annual "downpour" is less than half that of Chicago.

It rained the other day, and out of our window we saw a typical picture—three automobiles, all arrived at the same slippery intersection at the same moment. Somehow they reminded us of three dogs, strangers—each seeming to say to the others, by slight movement or dignified rigidity: "It's your move, and if you move wrong I'll chew your hind leg off!"

Presently, just like dogs do, they slowly, cautiously, stiffly maneuvered around each other and went their ways.

Lemeul Loosehead says: Wish I had tires like some fellows I know—the more hot air they shoot the more inflated they be.

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Duesenberg Established New Track Record

Three Duesenberg eight-cylinder cars in A.A.A. official time trials recently established new class figures at Sheepshead Bay Speedway, the feature driving being done by Milton, who set new marks for the 300-inch class from 1 to 25 miles, traveling over 116 miles an hour for the distance. One of the cars, with a displacement of 183 cubic inches set new marks for all distances up to 140 miles including the one hour mark.

Milton drove his 300-inch car for 25 miles, setting the following new figures and Lewis drove the same distance but slightly slower:

Distance Miles	Milton Min.	Milton Sec.	Lewis Min.	Lewis Sec.
1	0	30.78	0	32.49
2	1	1.40	1	4.06
3	1	39.93	1	37.11
4	2	2.37	2	09.46
5	2	32.78	2	42.23
10	5	4.78	5	24.91
15	7	39.58	3	7.52
25	12	55.74	13	31.63

The new 183 inches displacement job is the smallest racing car ever produced by Duesenberg and was built for next year's events which will be in that class. The car showed remarkable speed and while it is capable of traveling well over 100 miles per hour for many hours, was not pushed by the driver owing to the fact that no marks had to be beaten. The figures are new for this class of car and are more remarkable when one considers that the piston displacement is but slightly greater than that of a Ford engine and less than that of a Dodge.

Following are the figures for the 183-inch car:

Distance Miles	Time Hrs.	Time Min.	Time Sec.
1			40.42
2		1	20.32
3		2	00.46
4		2	39.33
5		3	36.58
10		6	20.80
15		9	24.26
25		15	34.34
50		33	40.30
75		49	4.35
100	1	05	3.10

The new Duesenberg eight-cylinder engines have their cylinders all in a row and use overhead valves operated by an overhead camshaft driven by bevel gearing through a shaft driven from the forward end of the crankshaft. The smallest engine has a bore and stroke of 2½ by 4⅝ inches, the 300-inch car is 3x5¼ and the largest car 3 1/32x5¼ inches. All engines were fitted with two Miller carburetors, one for each four cylinders. The ignition was by Exide battery and Delco timer-distributor to Bethlehem spark plugs, but in the smallest car to AC spark plugs. Sinclair gasoline and Opaline oil were used. The following is a complete list of equipment: Rudge wire wheels, SKF bearings, Magnalite pistons, Motometer, J-M Tachometer, Parish frame, Goodyear tires, Powrlock differential, Fahrig metal bearings, Ajax radiator, Tuthill springs, McQuay Norris piston rings.

Cross-Licensing Agreement Stands Suit

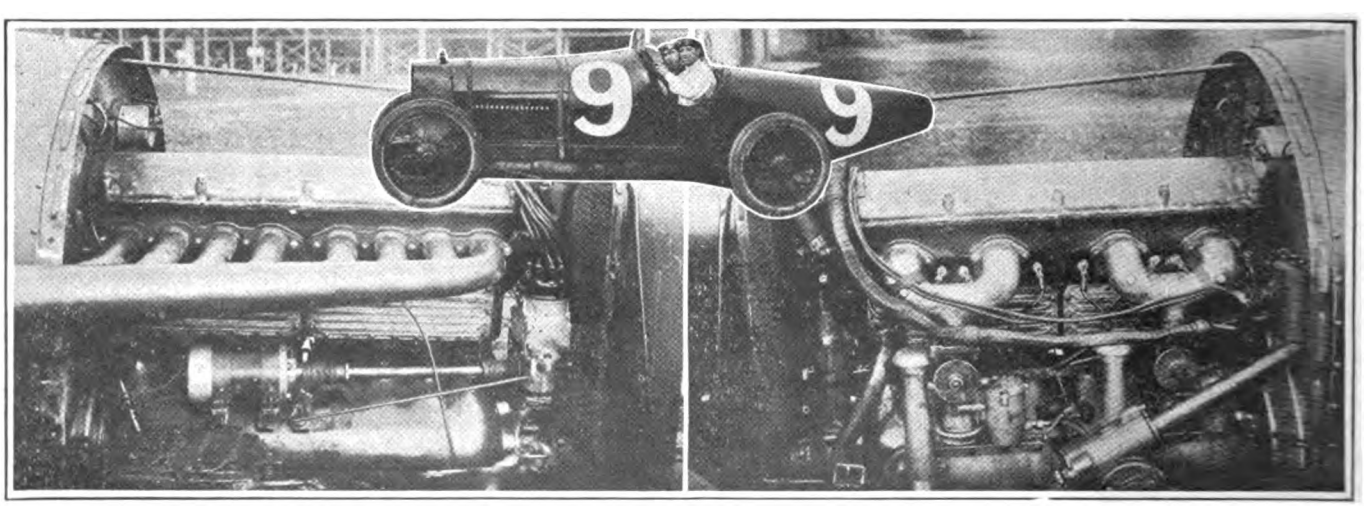
The suit of the Locomobile Company against the National Automobile Chamber of Commerce, to have the Cross-Licensing Agreement nullified, has been dismissed with costs in the United States District Court for the Southern District of New York. The court announced that leave to amend the complaint will be refused unless complainant states its desire to have this right because it can bring in lacking indispensable parties as co-defendants—that is, all the 100 or more N.A.C.C. members who are using the cross-licensing agreement. This, counsel for the N.A.C.C. say, cannot be done because there is no one district in the United States where all the cross-licensees jointly can be sued.

"The agreement is for exchange of patent rights without royalties, and by the industry generally has been considered a highly helpful, co-operative and constructive arrangement, working to the ultimate benefit of the buyers of motor cars," says Alfred Reeves, general manager of the N.A.C.C.

New Year's Production to be 1,600,000 Cars

After a comprehensive tour of factories in Michigan, Ohio and Indiana, Alfred Reeves, general manager of the National Automobile Chamber of Commerce, is of opinion that the aggregate motor vehicle output of 1920 will not exceed 1,600,000, though present production is at the rate of 2,000,000 a year, ranking with the 1917 average. In Mr. Reeves' total estimate, about 12 per cent refers to motor trucks. He reports an increased demand for motor busses in cities where street car service is not up to standard.

If it's a cold morning, don't use the electric starter till you have given the motor half a turn with the hand crank. It will ease the initial load due to pistons, bearings and other parts held fast in the grip of congealed oil and grease.



NEW EIGHT-CYLINDER DUESENBERG MOTOR—(Left) Exhaust side. (Right) Intake side. (Insert) Showing 183-inch Duesenberg which established new class records for all distances at Sheepshead Bay Speedway, including the one-hour mark.

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PREVENTS ACCUMULATION OF CARBON

YOU can keep your motor snappy and full of "pep" by preventing the accumulation of carbon. Don't wait until your engine is choked and caked with it. Use JOHNSON'S CARBON REMOVER every 500 miles, then the carbon is removed while it is soft and powdery, eliminating the frequent grinding of valves and keeping the motor always clean. No experience or labor required—you can easily do it yourself in ten minutes—and the cost is trifling.

JOHNSON'S CARBON REMOVER

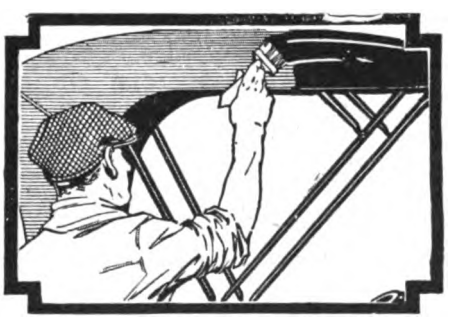
Johnson's Carbon Remover is a perfectly harmless liquid to be poured or squirted into the cylinders. Millions of cans have been used with satisfaction. It simply softens the carbon, then the heat from the engine pulverizes it and it is blown out the exhaust. **Johnson's Carbon Remover** contains no acids and does not affect lubrication.

It is the easiest, cleanest, safest and most satisfactory remedy for carbon. It will save you from $3.00 to $5.00 over any other method without laying up your car. A dose of **Johnson's Carbon Remover**—the engine laxative—will stop that knock—quiet the motor, and give the maximum power with the minimum amount of fuel.

JOHNSON'S

Hastee Patch

This is the ideal repair for tubes, casings and rubber goods of all kinds. No time, labor or heat required. A Patch can be applied in three minutes and it's so simple a child can use it. Gives equally good results on a pin hole puncture or on a large blowout.



JOHNSON'S

Black-Lac

Here is a preparation with which you can make your gray, dusty top and side curtains look like new. Johnson's Black-Lac is unequalled for blackening fenders, rims, hoods, lamps—and in fact, all worn metal parts. Prevents rust and keeps your car in a high state of repair.

JOHNSON'S

Radiator Cement

will stop leaks immediately without laying up the car—no mechanical experience required. It is absolutely harmless in every respect. It isn't a makeshift—it's a permanent repair. It will ordinarily seal a leak in from two to ten minutes. A half pint is sufficient for a Ford.

For Sale at Leading Hardware and Accessory Stores and Garages

S. C. JOHNSON & SON, M. W. 12, Racine, Wis.

ESTABLISHED 1882

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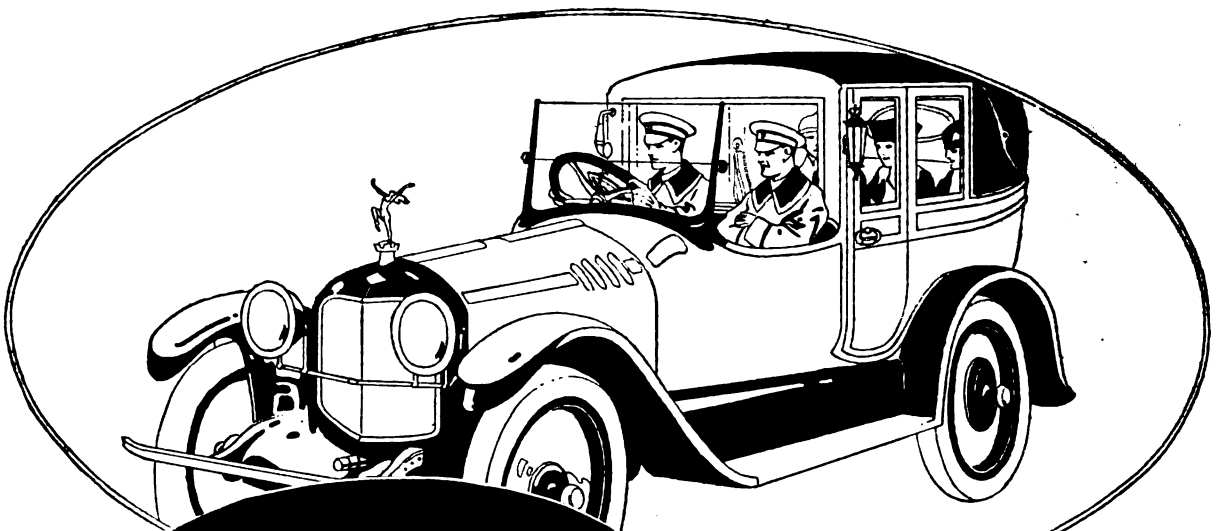
Confidence in the Brakes Means Comfort



RUSCO Brake Lining and Clutch Facings

WHEN striving to give your customers complete satisfaction, reline the brakes with Rusco Brake Lining.

Assurance of safety in the brakes spells comfort to car owners, and adds to the selling value of the car. Futhermore, Rusco Brake Lining is guaranteed for one year.

The following Rusco Products, like Rusco Brake Lining, show the result of 89 years' manufacturing experience in webbing products: **Rusco Top Straps, Tire Straps, Fan Belts, Radiator and Hood Lacings, Anti-Squeak Webbing.**

Send for Rusco Book—interesting and valuable to the manufacturer and dealer.

THE RUSSELL MANUFACTURING CO.

38 Factory Buildings Home Office and Factories **25,000 Shuttles**
515 Russell Avenue Established 1830 **Middletown, Connecticut**

Western Distributors: JOHN T. ROWNTREE, INC., Los Angeles, Cal.
San Francisco, Cal. Seattle, Wash. Denver, Colo. Salt Lake City, Utah.

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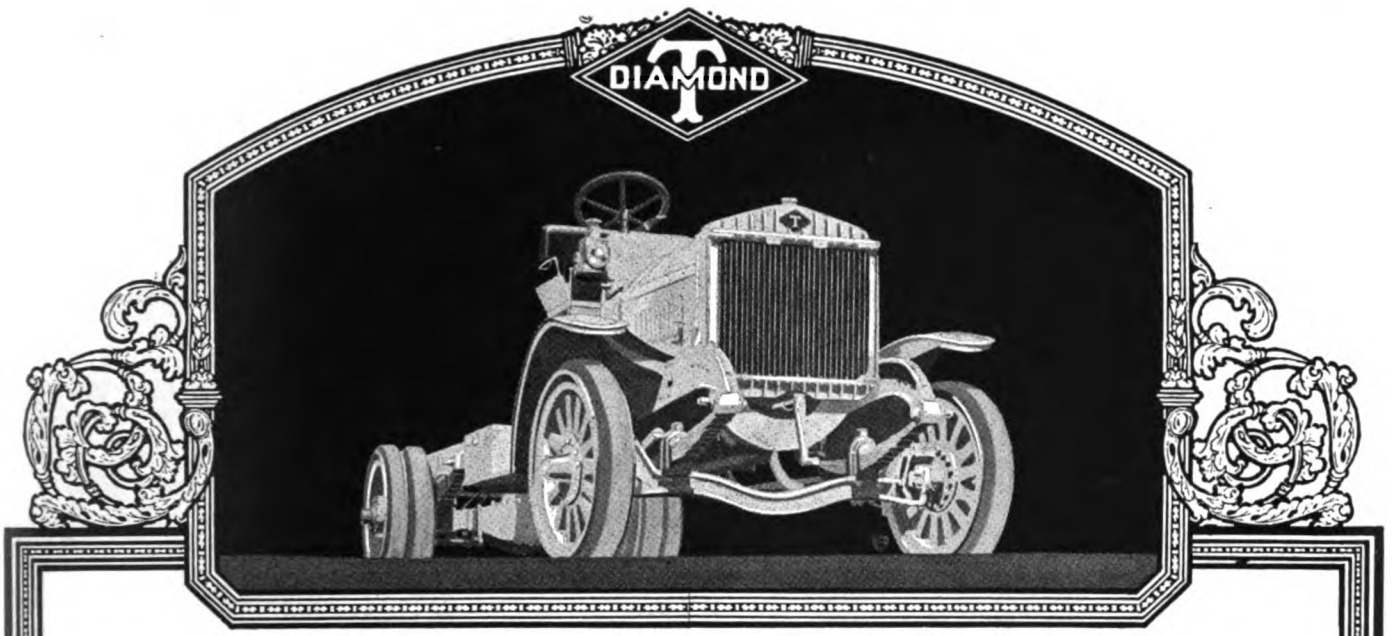

DIAMOND T

"The Nation's Freight Car"

"HEAVY DUTY"-*the Acid Test*

The gasoline transport of steel, stone, coal, brick, lumber, is the task that tries truck mettle. Contractors and transfer-men find DIAMOND T's dependable material movers. Here, for instance, are two testimonies fresh from our files that are typical of similar evidence reaching us every day.

Both Owners Echo: "No Expense"

The enclosed picture shows my Model R 5-ton Diamond T truck returning from Harvey, Ill., loaded with 7½ tons of material. The roads were extremely bad, but we got through without having to "call for help."

I have run this truck over 15,000 miles in the past 15 months without a penny of expense for repairs of any kind and, although I have kept no records on cost per ton mile, I know in a general way that this has been considerably below the average.—A. G. White, Gary Ind.

I wish to express my appreciation of the three Diamond T trucks which I purchased last spring and have used constantly since then without having one cent of expense connected with them outside of the oil and gas consumed.

The two pictures which I am enclosing will bear witness to my statement that the Diamond T can't be beat for "real service" and economy per ton mile. The truck loaded with bricks has a load of 4½ tons on and the one loaded with steel about four tons.—L. E. Riley, Gary, Ind.

These Distributors are behind Western Sales and Service:

Vernon A. Smith Motor Co.,
Distributors for the State of Washington
511-513 East Pike Street, Seattle, Wash.

Hirsch Motor Company,
Distributors for Upper California
1131 Van Ness Ave., San Francisco, Cal.

Diamond T Truck Sales Agency of Oregon, Inc.,
Distributors for the State of Oregon
89-91 North Ninth St., Portland, Oregon

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National Truck Reliability

Contest Promoted by Omaha Bee Will Bring Together Commercial Cars of All Classes Next Summer

AMERICA'S First Annual National Motor Truck Reliability contest will be run starting late in June, 1920, and extending over a course in the Middle West, with Omaha as the starting and finishing point. The route will be approximately 2,500 miles, with practically twenty-four days of driving and twenty-seven days in all on the road, Sunday driving being prohibited in the contest. The route will run through parts of eight states.

Trophies of value and beauty have been offered, including the Omaha Bee trophy for the best performance of a truck on the run, which will be limited to trucks of 3½ tons and under, all to be pneumatic tired. One of the main objects of the run is to demonstrate the pneumatic tire as applied to motor trucks to the wealthy farming population of the great territory covered.

F. Ed. Spooner, vice-president and advertising manager of "Motor West" and automotive editor of the Detroit Free Press, is promotional manager of the tour; Chas. P. Root, of Chicago, manager, and S. P. La Due, of the Omaha Bee, resident manager. Mr. Spooner is a veteran in touring and pathfinding circles, dating from the great Pittsburgh Endurance run of 1903, having participated in the annual tours of both passenger cars and motor trucks since that time. Chas. P. Root is also a veteran, prominently connected with the successful management of a majority of the great touring events out of Chicago, including two great motor truck runs of the past. Mr. Root is A.A.A. Contest Board representative.

Sanction for the contest has been issued by the Contest Board. Chairman Richard Kennerdell of the Contest Board has stated his belief that the event will be the most important ever held for the motor truck industry.

All motor trucks competing will be stock models, registered with the A.A.A., and will be inspected at the start and finish and passed by officials of the Technical Committee of the American Automobile Association. Observers will travel on the trucks throughout the run, every contesting truck going into controls at noon and night. Rules for the national tour have been prepared by Charles P. Root and his associates and passed by the Contest Board, which will have general supervision of the officials of the tour, all experienced men in the field.

The exact route will be determined only after the pathfinder has passed over the roads to determine upon its qualifications, but, generally speaking, the route will be from Omaha to Lincoln, Cheyenne, Denver, Colorado Springs, Pueblo, Hutchison, Topeka, Kansas City, Des Moines, Fort Dodge, Sioux Falls, Sioux City and Omaha. The average daily mileage will be slightly in excess of 101 miles.

Charles P. Root, Contest Board representative, 2204 Michigan avenue, Chicago, is already at work upon the general outlines of the route, the rules for the contest, entry blanks and other matters requiring attention. Applications for entries are already in hand with F. Ed. Spooner, 420 Book building, Detroit.

Kelly-Springfield Truck Enlarges

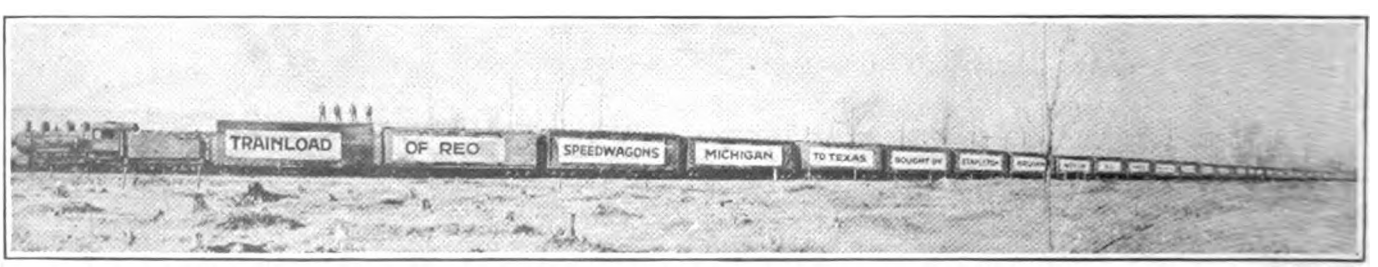
The Kelly-Springfield Motor Truck Co., of Springfield, O., is making additions to its plant which will enable the turning out of a finished motor truck every 20 minutes. The new buildings will be of reinforced concrete and will be used as additional machine shops. A three-story office building is also to be erected, it was recently announced by President James L. Geddes. Plans are for 7,500 Kelly trucks manufactured during 1920.

Willetts Heads Reynolds Truck Assembly Dept.

Vice-President A. A. Lehr, of the Reynolds Motor Truck Co., Mt. Clemens, Mich., announces the appointment of David M. Willetts as superintendent of the assembly department. Mr. Willetts is one of the old-time motor truck men who came into the industry during the early days of the "Rapid"; since then he has held important positions with Reliance, Samson, G. M. C., Federal and Packard. During the war Willetts was senior inspector of Liberty motors at the plants of the Lincoln and Packard motor companies.

Exit Mule Cart, Enter Motor Truck, in Cuba

Cuba is fairly well equipped with good roads. Even in the early 90's this was so. In many respects, however, it was "slow" until after United States intervention quieted its political troubles. Since then, things have happened. One important thing which has happened is the motor truck, which, metaphorically speaking, is rapidly pushing the old mule cart off the road.



SHIPPING 100 REO "SPEED WAGONS" ON A SINGLE TRAIN EVIDENCE OF BIG DEMAND IN SOUTHWEST.

The great demand for motor trucks in Texas is shown by the fact that the first train composed exclusively of motor trucks to be hauled any great distance was dispatched from the Reo factory, Lansing, Mich., to Fort Worth, Tex., the latter part of November. The train, composed of 29 cars, and loaded with 100 Reo "Speed Wagons," was sent out of Lansing as a "through freight" direct to Fort Worth. This was also the largest consignment of trucks ever made at one time to a private concern. The accompanying picture shows the huge banners which were attached to the sides of the cars as they pulled out of the Reo yards.

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Sixty thousand Republic Trucks are daily doing not only extraordinary things—but positively *heroic* things, in every conceivable kind of hauling. The volume of proof back of the Republic is greater than any other truck in the world is able to present.

National Truck Shows

New York, 8th Coast Artillery Armory, January 3 to 10

Chicago, International Amphitheatre, January 24 to 31

REPUBLIC TRUCKS

Republic Motor Truck Co., Inc., 941 Mich. Ave., Alma, Mich.

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Justice for Motor Trucks

Data of Value to All Concerned in the Subject, by Alfred Reeves, General Manager, of the N.A.C.C.

Alfred Reeves, general manager of the National Automobile Chamber of Commerce, issues a statement on the need of repressing the selfish few motor truck users who abuse highways with overloads on too-small tires, or by driving oversized machines at high speeds without even having mirrors to see behind; and, on the other hand, of combating, principally by proving the need of motor trucks and reiterating what they did during the war.

The menace of well meaning but erroneous restrictions and prohibitive fees is pointed out to makers, dealers and users; and the cost to the ultimate consumer is emphasized.

The public is entitled to especial consideration, having appropriated $1,300,000,000 for new road construction. The appreciation of this fact by motorists takes the form this year of more than $60,000,000 in registration fees paid into state treasuries. In addition, they must meet opposite opinion half way, particularly that of the average highway official, who is alarmed by increasing weights and who insists railroad beds are not strengthened unless increased saving or profit can be shown.

Impact tests by the Department of Agriculture show it is not always weight, but distribution thereof, which does damage. Many experts believe the question of weight is cared for by proper tire widths. The problem, however, is still unsettled, and the legislative tendency is toward high fees on trucks of about 4 or 5 tons capacity. Some call the Pennsylvania law fair, though it prescribes a 26,000 pound limit and 90 inch body width. The fees are based on chassis weight and overloading is contested by requiring on the body, in 3-inch letters, the total weight limit of chassis, body and load permitted, violation involving fine and imprisonment. New Jersey permits 30,000 pounds, truck and load, with fees from $12 for 1-ton truck to $67 for 7 tons, while New York 14 tons total weight is permitted, to be registered for $70, with $10 more for each extra ton.

Encouraging legislation limiting each type of vehicle to carry weights conforming to its design and tires is recommended. The whole subject will be considered at the New York and Chicago motor truck shows.

Join the Ship-by-Truck Movement.

N. A. Hawkins Talks of Truck Ills

Norval A. Hawkins, who used to write business talks to bicycle dealers for "The Wheel," in New York, back in 1898, and who was former sales manager of the Ford Motor Co., was principal speaker at the recent banquet celebrating the first anniversary of the National Association of Motor Truck Sales Managers, at the Statler in Detroit. With his old-time accuracy he pointed out evils and in every case suggested a remedy. He decried price cutting, especially in the form of undue allowances for worn-out machines taken in trade; also the lack of a uniform cost system, to arrive at selling prices. Incidentally he told that only three of the motor truck factories existing nine years ago are today building and selling commercial cars; also, that there are today more motor truck factories than passenger car plants.

Toastmaster J. U. Higginbotham raised a laugh by declaring that Moses could have led the children of Israel out of the wilderness in 29 hours instead of 40 years, had he had motor trucks.

The association, formed a year ago with six members, now represents 66 concerns. J. E. Tracy, Milwaukee, was re-elected president, and T. T. Boulden, Rochester, vice-president. The office of secretary and treasurer was combined and E. T. Herbig, Wabash, Ind., elected to fill it. The officers were elected by the directors, who had been elected earlier by the delegates as follows:

H. A. Conlon, Detroit; A. C. Burch, Clyde, O.; F. L. Pierce, Detroit; E. T. Herbig, Wabash, Ind.; A. J. Whipple, Chicago; J. E. Tracy, Milwaukee; H. T. Boulden, Rochester, N. Y.; A. E. Schaefer, Lima, O.; F. G. Elder, Newark, N. J. The next meeting will be held in Chicago.

Martin Announces New Automatic Fifth Wheel

A new automatic fifth wheel, which renders unnecessary the use of jacks for lifting the front end of the semi-trailer in order to connect to and disconnect from the truck, and combines in one unit an automatic coupling device and cam whereby the front end of the semi-trailer may be automatically raised, has been invented by C. H. Martin and will soon be placed on the market by the Martin Rocking Fifth Wheel Co., Springfield, Mass.

Union Motor Truck Erecting $1,000,000 Plant

Completion is being hastened on the new $1,000,000 plant of the Union Motor Truck Co., Bay City, Mich. There will be a series of units. The main building, 100x100 feet, will not have a post on the floor. The company's business grew so fast that all summer, except for shelter roofs, workmen were busy in the open.

TRUCK-TRAILER TRAIN ON A 2000-MILE CIRCLE TOUR AROUND THE STATE OF WISCONSIN.

An Oldsmobile truck hauling five trailers is now engaged in a 2000-mile circle trip around the state of Wisconsin. Records are to be kept of the mileage, the fuel used, condition of roads, inspection of tires at end of journey and other information pertaining to truck-trailer economy. The truck-trailer train was made up of an Oldsmobile truck and five Warner trailers, consisting of a 1½-ton 4-wheel trailer, a 2500-lb. 2-wheel auto trailer, a 1200-lb. auto trailer and two 1500-lb. auto trailers. Before starting the journey a strenuous test was given the truck by coupling it to a 1½-ton 4-wheel Warner Trailer, loaded with 3500 pounds of chain. The truck easily negotiated a 7% grade and proved its fitness for the gruelling cross country trip. The Warner coupling devices, spring suspension, adjustable drawbar and hitch, with the matched flooring and general quality used in body construction, make these auto trailers practical behind any automobile. There is no dragging action, no bumping or jolting, no shock in starting or stopping.

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The Story Behind This Success

About FRED VOGLER

For forty-seven years Fred Vogler has been solving Transportation problems. From the earliest western railroading days to owner and operator of overland Stage Lines in the times when a leather-cased carbine was an essential part of the equipment.

It is men of Mr. Vogler's stamp that make the Bethlehem Organization such a strong factor in the Truck Field.

NORTHWEST AUTO CO. INC.

DISTRIBUTORS "THE LINE COMPLETE"

PORTLAND, OREGON

Sept. 28th, 1919.

Bethlehem Motors Corporation,
Allentown, Pa.

Gentlemen:

From a two story building 50 x 100 to a five story building 100 x 100, partially illustrates the strides of the Northwest Auto Company during the past year. Although this Company was established in 1898, it was only two years ago that we became distributors for Bethlehem Trucks. We must attribute a good portion of our growth to the Bethlehem product.

Two years ago there was but a scattering of Bethlehem trucks throughout Oregon, Washington, Idaho and Montana. Today throughout every county, Bethlehems are represented in every agricultural pursuit and industrial activity.

The Bethlehem policy of utmost cooperation from the factory through the distributor and dealer to the owner, backed up by a meritorious product, sold at a fair price, is what has built up Bethlehem Truck business and we are certain will build business for any distributor or dealer no matter where located.

Bethlehem to us, stands for more than a truck and for more than a manufacturing plant. It stands for an organization supported by high ideals and the efforts of the Bethlehem Motors Corporation to maintain those ideals have reflected to our benefit, and we are glad to be, and hope to continue a representative of of the Bethlehem Organization.

Very truly yours,

NORTHWEST AUTO COMPANY

V/K F. W. Vogler

President

1½-Ton Chassis **$1965**

2½-Ton Chassis **$2365**

3½-Ton Chassis **$3465**

F. O. B. ALLENTOWN, PA.

BETHLEHEM MOTORS CORPORATION
ALLENTOWN, PA.

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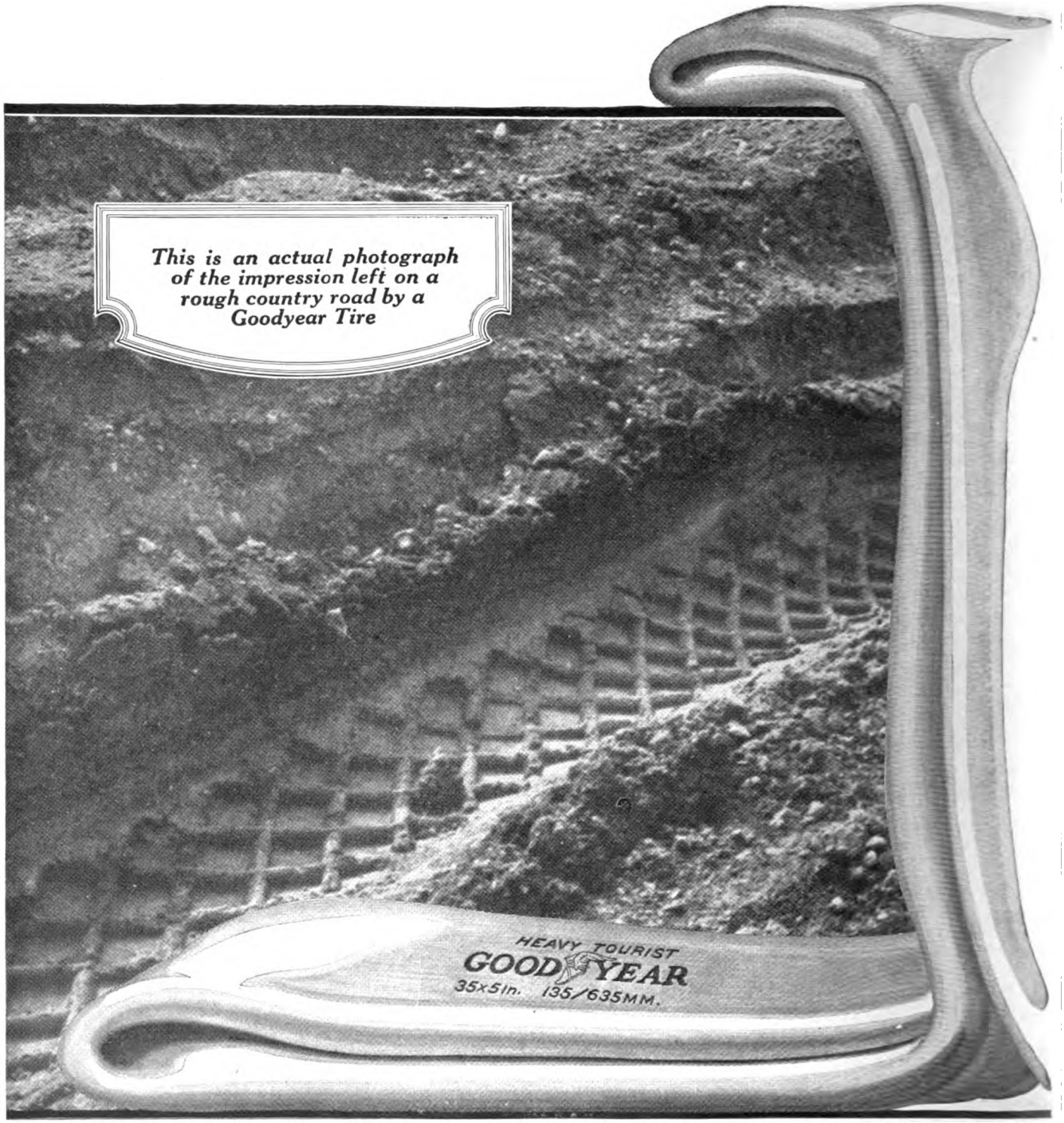

Because they hold air unfailingly, because they withstand successfully the roughest usage, because under all conditions they

GOODYEAR

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afford to expensive casings the support essential to good results, more Goodyear Tubes are sold and used than any other kind

HEAVY TOURIST TUBES

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Ruggles Secures Control of Republic Truck Co.

F. W. Ruggles, president of the Republic Motor Truck Co., Inc., Alma, Mich., has, in conjunction with John N. Willys and W. J. Baxter of New York City, acquired control of the Republic Motor Truck Co., Inc., and the Torbensen Axle Co., of Cleveland, Ohio. The interests formerly held in these corporations by parties located in Cleveland, Alma and other points were purchased outright. The men whose holdings were purchased, including Charles G. Rhodes, former secretary of the Republic Co.; C. F. Hepburn, former vice-president and general manager; J. O. Eaton and others, have no further connection with either of the organizations.

Mr. Ruggles announces that, in spite of conflicting rumors which have been published recently, the Willys-Overland Co., Toledo, Ohio, is in no way connected with the transaction, which was a purely personal investment by himself, John N. Willys and W. J. Baxter.

Mr. Ruggles also announced that the original administrative policies of the Republic Motor Truck Co. will in large measure, be continued, and predicted a period of continued growth and prosperity for the institution.

No Change in Garford Interests

Recently there have appeared in various issues of the press throughout the country items stating that John N. Willys of the Willys-Overland Co. owns control of the Garford Motor Truck Co., Lima, Ohio, one of the leading motor truck manufacturers of the country.

The Garford Motor Truck Co. has given out a statement that these rumors are unfounded. They advise that neither John N. Willys, nor the Willys-Overland Co. are financially interested in the Garford Co.

The statement of the Garford Company goes on to say that on January 13, 1915, the interest of the Willys-Overland Co., and all other interests in the Garford plant were purchased by the present organization, since which date the present management has been in charge. The Garford Motor Truck Co. is an independent corporation, and has no affiliation with any other automobile or motor truck interests.

Foresees Pnuematic Tires on all Trucks

Pneumatic tires will be found on nearly 100 per cent of all the trucks in the country by 1921, predicts J. C. Weston, vice-president and general manager of the Ajax Tire & Rubber Co., of New York City. At the end of 1920 between 50 and 75 per cent of the total number of trucks manufactured will be riding on pneumatics, according to the forecasts of truck makers themselves.

New Railroad Will Increase Motor Trucks

San Diego and all that important part of Southern California have waited many years for the San Diego-Arizona railroad, now completed. It not only means through trains from the East to San Diego via Yuma, but it means stirring the industry of Imperial Valley and other productive areas marvelously. It necessarily means a great increase in motor trucks, as well as tractors and passenger cars.

Weight Limitation on Motor Vehicle Tires

In response to a formal request made by P. J. Tehaney, superintendent of the California State Motor Vehicle Department, concerning the legal weight limitations on motor vehicle tires, etc., referred to in Section 15 of the Motor Vehicle Act, the California Highway Commission has made the following order:

That general instructions be issued by the Highway Engineer that in the enforcement of that part of the Motor Vehicle Act, which relates to permissible loads of motor vehicles, the following procedure shall be followed:

The actual width of tire coming in contact with the surface of the highway is to be considered as the width of bearing on the highway for the wheel under test.

The vehicle with its load, if any, shall be weighed first with all wheels on the scales. Then each axle load shall be weighed separately by running the front wheels and then the rear wheels off the scales alternately. If the sum of the observed weights of the two axle loads does not equal the total weight of the vehicle and load, as aforesaid, subsequent trials shall be made with the vehicle moved forward or back, as required, until the sum of the two axle weights does equal the total weight of truck and load. Each wheel will be assumed to carry one-half of the axle load of the axle to which it is attached, except in the case of dual wheels when each wheel will be assumed to carry one-quarter of the said axle load.

New Organization To Make Commercial Bodies

The Fitz John-Erwin Mfg. Co., Muskegon, Mich., has just been incorporated with a capital stock of $100,000.00 for the purpose of manufacturing truck bodies and cabs which will be sold direct to the leading truck manufacturers. The initial building of the company's plant comprises 25,000 square feet of manufacturing space, and is situated on an 8-acre tract of ground which permits ready expansion for future growth.

H. A. Fitz John is president and general manager; W. C. Powell, vice-president; L. B. Erwin, secretary, and T. H. Hume, treasurer. Mr. Fitz John is very well known in the industry, and his experience with the Hudson Motor Car Co., and as production manager of the Continental Motors Corporation has fitted him for factory production which already is well under way.

Commerce Acquires Ground for Plant Additions

The Commerce Motor Car Co., Detroit, has just acquired two more acres of ground at its present location. As soon as the present construction work is completed, it is reported that additional buildings will be erected on the newly acquired ground. This company is making plans to materially increase its production of one to two ton trucks for 1920.

C. O. Nerad, former service manager of the Dearborn Truck Co., of Chicago, has been made sales manager for the company over all territory west of the Mississippi River. L. W. Coulson, advertising manager, directs sales in Eastern territory.

PATRIOT TRUCKS ARE BEING ORDERED IN LARGE NUMBERS FOR RURAL MOTOR EXPRESS SERVICE.

The Hebb Motors Co. furnished a large fleet of trucks to the Patriot Motors Express Lines, of Kansas City some three weeks ago, and and since that time the company has negotiated dealers for supplying trucks to no fewer than four other concerns in different sections of the country which proposes going into the freight transportation business on a large scale. Here are shown nine of the 25 Patriot trucks which were delivered over the road to the Kansas City company mentioned. The remainder of this first installment followed the next day.

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Wilson dependable MOTOR TRUCKS

at the

National Truck Shows

New York, January 3--10
Chicago, January 24--31

A complete line of Wilson dependable Motor Trucks will be exhibited at the New York and Chicago National Automobile and Truck Shows.

The New York exhibit will be held on January 3rd to 10th in the Eighth Coast Artillery Armory, 194th Street and Jerome Avenue and can be reached by the Lexington Avenue Subway, or the Sixth or Ninth Avenue Elevated Roads.

The Chicago exhibit will be held in the International Amphitheatre, reached by the South Side Elevated Road.

1½, 2½, 3½ and 5 tons Capacity---All Worm Drive

J. C. WILSON COMPANY
DETROIT, U. S. A.

36th Year

COMMERCIAL VEHICLE MANUFACTURERS

Please Mention "Motor West" When Writing to the Advertiser

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Field DURABLE BODIES

An Enduring Investment

In the good will of your customers—that's the truth about *every Field Body you sell.*

Field Durable Bodies are built to give *permanent satisfaction.*

They possess great strength, with the lightest weight consistent with that strength.

The bolster construction, for instance, is most substantial. Guardangles, stake pockets sills and floor are tied solidly together—a feature found *only* in *Field's.*

Our manufacturing facilities are complete, and so large that we produce Field Bodies at a price surprisingly low.

Our knockdown shipments secure lowest freight rates. A complete line of *Ford Bodies* always in stock. We are originators of the interchangeable unit idea for trucks.

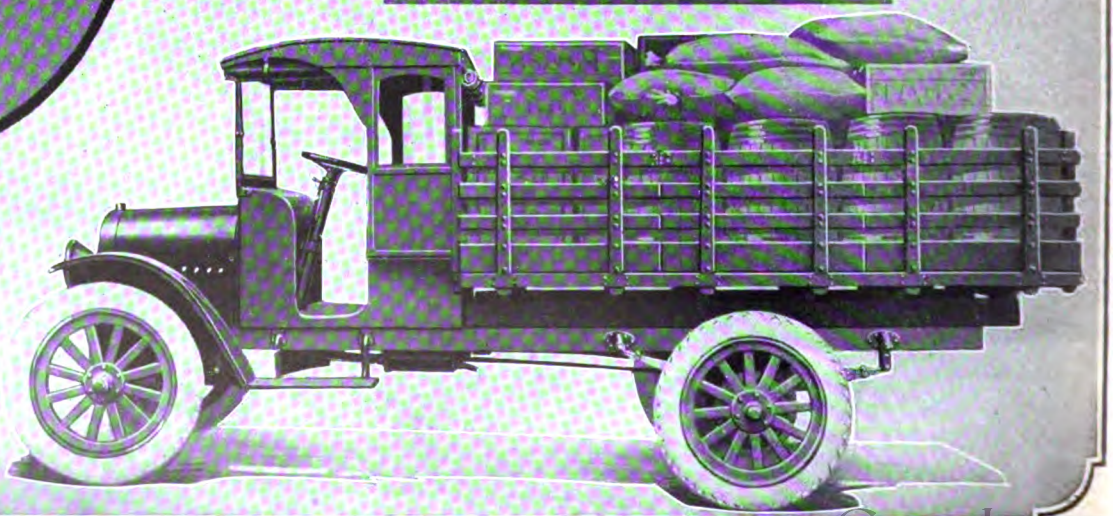
Write for prices and full description.

Address Dept. X.

FIELD MANUFACTURING CO.

OWOSSO, MICHIGAN, U. S. A.

Largest Exclusive Truck Body Plant in the World.



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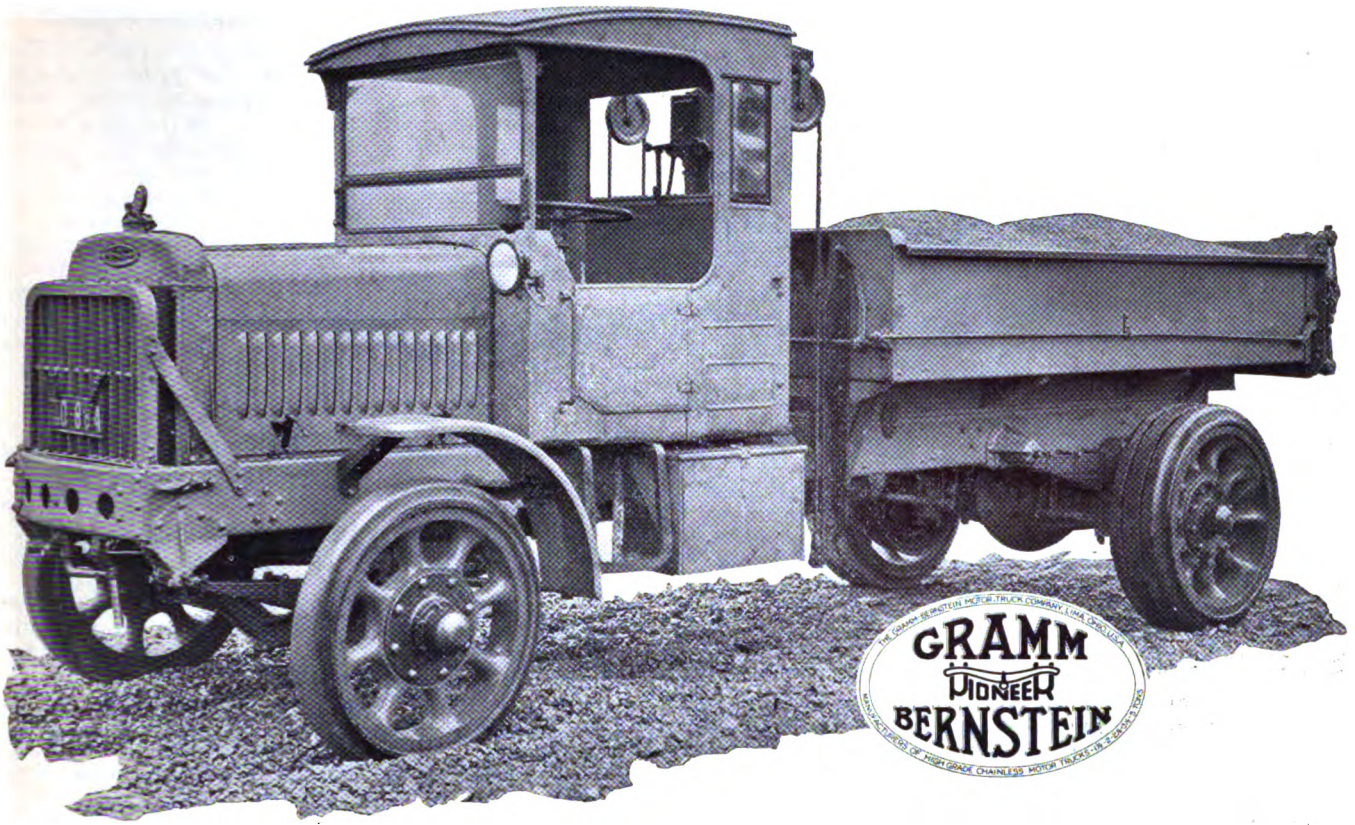


Get This Truck's Record Is All We Ask

We honestly believe that no business house, in its own interest, can afford to buy any truck without fully informing itself about the Gramm-Bernstein.

It should know, for example, that there exists a distinct preference for this truck among experienced buyers.

It should know, also, that this preference—which, by the way, is enjoying a very healthy growth—is a perfectly logical development.

It should know that Gramm-Bernstein owners are genuinely satisfied.

Our owners will testify that a Gramm-Bernstein lasts literally for years.

That operating upkeep and repair costs are extraordinarily low—and especially so in ratio to the service the truck renders. And that when they need another truck, or more trucks, their choice is invariably the Gramm-Bernstein.

These things are important to a prospective truck-buyer.

They are important to us, for they tend to confirm our belief that the Gramm-Bernstein represents the soundest truck engineering practice in America.

This belief is based on something more than a truck-building experience now rapidly approaching 20 years.

It is based on Gramm-Bernstein records and performance.

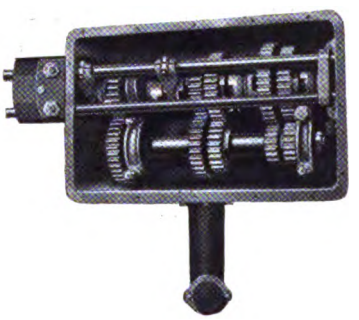
It is strengthened by the fact that Gramm-Bernstein features were adopted bodily for the Army's trucks, and that they had long before proved themselves practical and successful.

Gramm-Bernstein engineering finds its latest expression in our new 5-ton truck, which has already had a test equalling two years' ordinary travel of a 5-ton vehicle. We ask no business to buy our trucks on our say-so—though that is a perfectly safe thing to do.

Gramm-Bernstein performance and service are matters of record. Any one of our dealers will place the facts before you, and put you in touch with our owners.

The most we ask is that you get the complete information.

Gramm-Bernstein Worm-Drive Trucks, in 1½, 2, 2½, 3½ and 5-ton capacities, are now sold completely equipped, ready for the body—not an extra to buy.



The Gramm-Bernstein transmission is completely trouble-proof. It is actually a basic superiority. Careless driving, hard work, cannot possibly harm it.

The gears are always in mesh. They are never shifted, never ground, never clashed. Speed changes are made through patented dog clutches.

Gears and clutches are progressively assembled on a heavy six-spline shaft and can never get out of alignment. Not a pin, bolt, nut, set- screw, stud or key, which might work loose, fall out, and possibly damage the entire gear set, is used in the gear assembly.

All Gramm-Bernstein Transmissions are provided with a pad for attaching Gramm's Basic Patent Power Take-off. Dealers and truck owners should assure themselves that any trucks purchased with power take-off do not infringe B. A. Gramm's Basic Patent No. 1194994.

The Gramm-Bernstein Motor Truck Co., Lima, Ohio, U. S. A.

Pioneers Since 1901—Builders of the First Liberty (U. S. A.) Truck

F. B. CLARK, Pacific Coast District Sales Manager, Room 401, No. 143 Second St., San Francisco, Cal.

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S. F. to L. A. and Back in 44 Hours in Truck

Railroad men are beginning to admit that the motor truck will prove a good feeder to their lines. That the motor truck already is, but it persists in doing more than the railroad men like to admit, by keeping right on beyond the feeding point and doing the whole-hog act by covering the whole distance, there and back, in much less than the time which would be required by train shipment.

Recently a 3½-ton Mack with Goodyear pneumatic tires and operated by a San Francisco moving concern, carried a load of furniture from that city to Los Angeles, unloaded, reloaded and returned to the Bay City, all within 44 hours; said to be a record in that line of business. The first shipment weighed 7,000 pounds and was valued at $18,000. It is estimated that the cost of crating and shipping by rail would have been $1,000, plus cartage at both ends, whereas the cost by motor truck was $400. The return shipment, new furniture, also weighed 7,000 pounds, and the transportation cost was $400.

The motor truck covered the round trip of 969 miles at an average of nearly 35 miles per hour in the open country. At the detour near Santa Maria the big machine not only ground through where several passenger cars were stalled, but, in addition to its own weight and that of its load, towed two of the passenger cars at one time.

Napoleon Motor Appoints Dist. Sales Representatives

Announcement by the Napoleon Motors Co., Traverse City, Mich., of the personnel of its district sales force has been made by C. D. Peet, sales manager. B. P. Haynie, southwestern representative with headquarters at Tulsa, Okla., was formerly with the Traffic Truck Co.; M. R. Guyer, northwestern representative with headquarters at Omaha, Neb., was formerly with the Hanson & Tyler Automobile Co.; D. M. Finley, southern representative with headquarters at Dallas, Tex., was formerly with the Cataract Refining Co., and D. M. Ferry, traveling factory representative, was formerly with the Reo Motor Car Co. and the Republic Motor Truck Co.

Reynolds Motor Truck Co. Disposes of all Stock

At the stockholders' meeting of the Reynolds Motor Truck Co. of Mt. Clemens, held Nov. 28th, it was decided to close the stock subscription books as all the necessary funds for the conduct of the business had been furnished by local business men. This was the first meeting held in the new factory building, which, although not completely finished, is sufficiently far advanced to enable the offices being moved from their temporary quarters and limited manufacture to be started at once.

The Commerce Motor Car Co., Detroit, claims to be the pioneer in adopting the pneumatic cord tire for trucks, 90 per cent of its production leaving the factory with this equipment.

Striking Evidence of Motor Truck Value

The Palo Verde Valley, in Riverside County, Cal., is said to be as rich in soil and climatically, for productive purposes, as Imperial Valley—which is saying much. Blythe is its main city. A railway now runs to it from a main line connecting with Los Angeles and the wide world. The railway facilities cannot keep pace with the region's advancing prosperity. Land undeveloped last year is now covered with cotton. Scores of Texas growers, forced away by drouth, have settled on these acres. There are many other products, but cotton is becoming supreme. Many young men, cotton pickers this year, will be cotton growers next year. The gins are working overtime; and—

Huge quantities of cotton and other supplies are being hauled from the ranches to the railroad by caravans of motor trucks.

"Clyde Cars" Changed to "Clydesdale Motor Truck" Co.

The Clyde Cars Co., of Clyde, Ohio., builds the Clydesdale truck, named for the breed of heavy draught horses which the Clydesdale and other motor trucks have so rapidly supplanted. That the factory was located in the little town of Clyde, Ohio, was a mere coincidence.

During the eight years of intensive sales and advertising campaigns to put the name of the truck before the public the name of the company has been quite lost sight of. The bulk of the mail and telegrams addressed to the factory within the last few years has been sent to The Clydesdale Co. The Clydesdale Truck Co., or some similar name. As a result The Clyde Cars Co., has invoked the aid of the courts and changed its name to The Clydesdale Motor Truck Co.

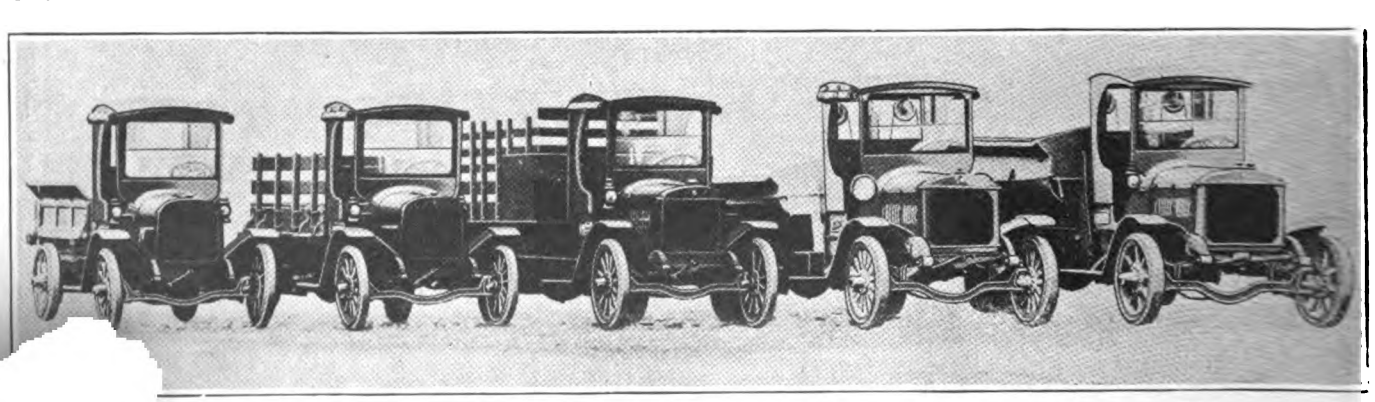
Service Motor Trucks Increased in Pnce

The Service Motor Truck Co., Wabash, Ind., has announced that, effective December 5, 1919, prices of Service motor trucks will be as follows: Model 220, 1-ton, $2245; model 31, 1½-ton, $2785; model 36, 1½-ton special, $3215; model 51, 2½-ton, $3245; model 71, 3½-ton, $4085; model 76, 3½-ton special, $4285; model 101, 5-ton, $5745.

This advance is made necessary because of the increased manufacturing costs, and is the lowest possible advance to insure a fair margin of profit to the Service Motor Truck Company and continued co-operation with the sales organization.

Wallace Purchasing Agent Standard Motor Truck Co.

C. M. Wallace, formerly with the Purchasing Department, Body Division, of the Packard Motor Car Co., has joined the Standard Motor Truck Co., as purchasing agent. The automotive experience of Mr. Wallace began with the Buda Co., where he was purchasing agent. Later he joined the Mitchell Motors Co., where he held the position of assistant purchasing agent during three years.



MODELS OF ACME WORM-DRIVE TRUCKS WILL BE SHOWN AT NEW YORK AND CHICAGO TRUCK SHOWS.

...te Acme line of worm-drive motor trucks will be on exhibition at both the National Automobile Shows—New York, January 3-10 ...ry 24-31. The Acme line illustrated here consists of 1, 1½, 2, 3½, and 5-ton models. The truck at the extreme left shows model ...quipped with Acme standard express body, finished in the natural wood. Second truck model F, 1½-ton, equipped with Acme Fa... ...ished in the natural wood. Truck No. 3, model A, 2-tonner, equipped with standard stake body. Fourth truck is model C, 3½-ton, ...th all-steel combination gravel body. Fifth truck is model E, 5-tonner, equipped with all-steel coal body.

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Commerce TRUCKS

They Make Good On Any Job

—*Commerce Owners Will Tell You That*

A truck built of the stuff Commerce is made of could not fail to make good, ***and they have for ten years.***

Every vital part of the Commerce Truck is made by a specialist with a national reputation for a high grade product.

Check this list of units possessing unquestionable performance records—more than can be found in any other make of truck built.

Continental Red Seal Motor
Torbensen Rear Axle with Timken Bearings
Detroit Gear Co's Transmission
Highland Commercial Bodies
Detroit Steel Products Springs
Eisemann Magneto and Impulse Starter
Spicer Universal Joints
Willard Storage Battery
Zenith Carburetor
Stewart Vacuum System
Jacox Steering Gear
Bijur Electric Generator
Commerce Own Design Radiator
Champion Spark Plugs

The COMMERCE MOTOR CAR CO.

DETROIT :: MICHIGAN

FREEMAN A. McKENZIE,
CITY GARAGE, INC.,
1205 South Olive St., Los Angeles, Cal.

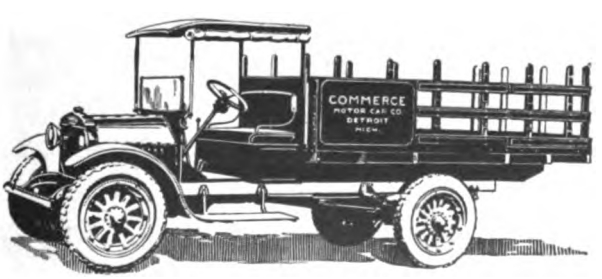
McCRACKEN MOTOR CO.,
Portland, Ore.

COMMERCIAL MOTORS CO.,
Seattle, Wash.

C. P. KIEL,
1830 Van Ness Ave., San Francisco, Cal.

SULLIVAN TAYLOR MOTORS, LTD.,
1260 Granville St., Vancouver, B. C.

W. B. WOOD,
Pacific Coast District Manager,
1205 South Olive St., Los Angeles, Cal.



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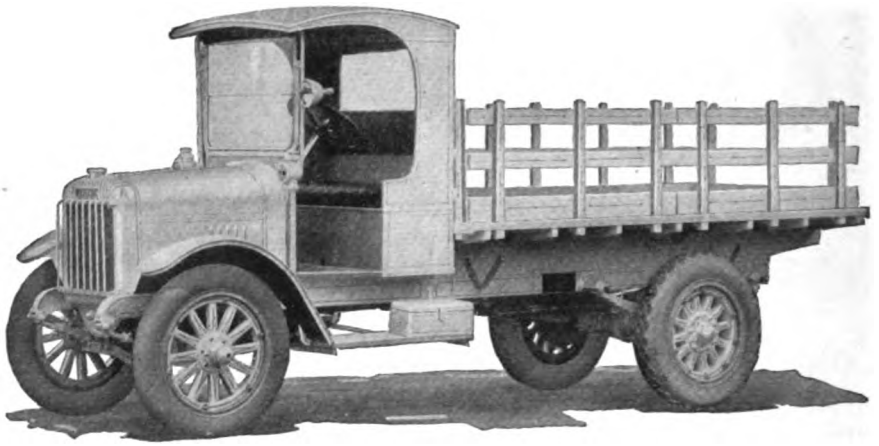
WOLVERINE

Some Good Dealers Territory is still open.



If interested, wire or write at once, as all territory will be covered very soon.

The Truck of Good Service

An up-to-date truck in every respect which will give 100% service to the owner. Fully equipped with electric starting and lighting system including a searchlight.

MANUFACTURED BY

AMERICAN COMMERCIAL CAR COMPANY

DETROIT, MICH.

REYNOLDS

MOTOR TRUCKS

Designed and manufactured by the oldest and ablest men in the motor truck industry. Durability and Reliability inherent characteristics. The most completely equipped chassis on the American market.

1½-2½-3½ and 5 ton capacities.
3 to 4 ton Inter-City Express
Special fitted with pneumatic tires

Distillate, Gasoline and Kerosene burned in all motors

Desirable territory is open to Responsible Distributors

REYNOLDS MOTOR TRUCK COMPANY

MT. CLEMENS, MICHIGAN

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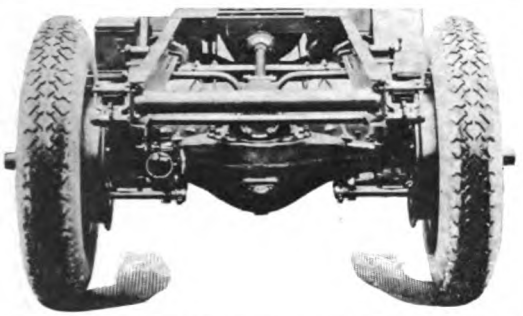
Standard
DETROIT USA



From unretouched photograph showing

STANDARD

Strength—Stability—Safety

WHEN you see a STANDARD Motor Truck Stripped, and note the Sturdy, Stable, Bulldog-like Building of the Engine, Frame and all other Vital Parts,—you then understand why STANDARD Motor Trucks Stay Standard.

Long Life of STANDARD Motor Trucks is largely due to the "Stuff" that's in them. You'll find no Skimping of anything necessary for the Soundness and Safety of STANDARD Motor Trucks.

"Hand Fashioned"—you might call them—with all the Pride and Will of Old School Builders Forged in.

In addition to this, STANDARD Motor Trucks are built with Standard Units, such as:

TIMKEN-DETROIT Axles and Bearings
CONTINENTAL Motors
SPICER Universal Joints
GEMMER and ROSS Steering Gears
PERFECTION Springs
EISEMANN Ignition
LONG Radiators
BROWN-LIPE Clutch and Transmission

Staying STANDARD makes STANDARD Motor Trucks especially profitable to Sell, for STANDARDS Seldom require Service. Dealers write for Territory.

Will be Exhibited in National Automobile Shows—New York, Jan. 3 to 10; Chicago, Jan. 24 to 31.

Standard Motor Truck Co.
Detroit, Mich.

Standard
DETROIT USA

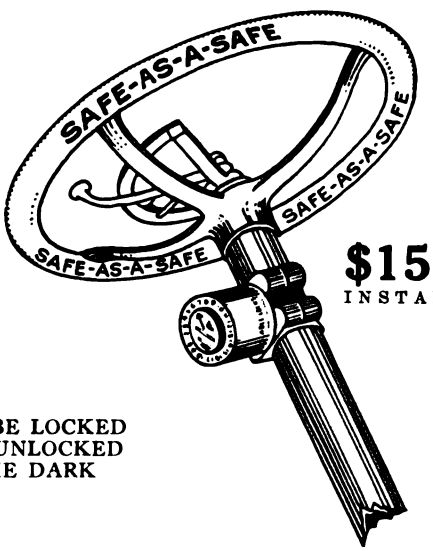
MOTOR TRUCKS

1, 2, 3½ and 5-Ton Capacities with a Body Style for Every Business.

"All the name implies"

ABLE COMBINATION AUTO LOCKS

UNDERWRITERS LABORATORIES INSPECTED

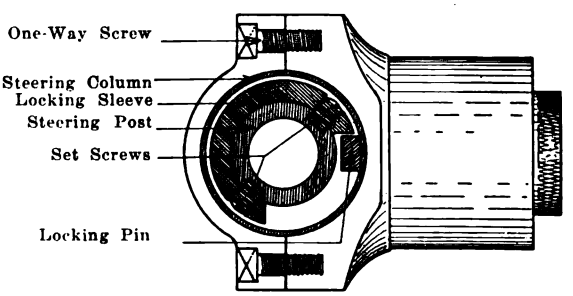


$15.00
INSTALLED

CAN BE LOCKED AND UNLOCKED IN THE DARK

Positively Prevents Driving or Towing of Car While Locked

COMPLIES WITH ALL CITY AND STATE TRAFFIC LAWS



Sectional View of Lock Installed

DISTRIBUTORS

SALT LAKE
CHAS. A. NICHOLS
373 S. Main St.

PORTLAND
SMITH AUTO CO.
Couch & Park Sts.

OAKLAND
J. W. BURGE
1912 Telegraph Ave.

SAN FRANCISCO
CHAS. P. BOONE & CO.
503 Market St.

SACRAMENTO
AFFLECK & COLEMAN
1106 K. St.

MADE BY

ABLE MFG. CO., Inc.
731 FOLSOM STREET
SAN FRANCISCO
AGENTS WANTED

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FLEXIBILITY + POWER

Embodied in the power plant of

"KALAMAZOO"

"The Hand-Made Truck"

Gives our distributors something to talk about and we stand back of our truck. Kalamazoo users are satisfied at all times.

Three Models, 1½ ton, 2½ ton, 3½ ton

Now opening some new territory. Send for our catalogue and proposal to Distributors—it will interest you.

Kalamazoo Motors Corporation
(Motor Truck Division)
Kalamazoo, Michigan, U. S. A.

PORTAGE DAISY TREAD TIRES

Extra rubber and extra fabric, built layer by layer into a tremendous strain-resisting unit—

this means more mileage.

Better facilities, better workmanship, closer inspection—this means **Portage Quality** — more mileage.

Portage Tires carry profit advantages for the dealer in addition to the normal profits obtained from ordinary tires.

Write for the Portage Agency proposition.

Factory Branches

745 Mission Street
San Francisco, Cal.

410 West Pico Street
Los Angeles, Cal.

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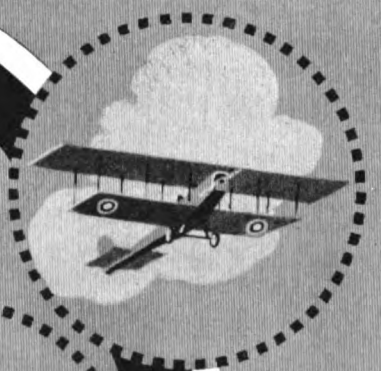
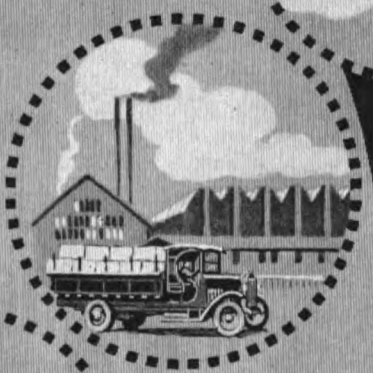
QUALITY SNAP RINGS Play a Prominent Part in America's Gas Engine Construction

"MORE THAN A MILLION A MONTH"





Send for "TWELVE REASONS" *Booklet*

THE Piston RING COMPANY

SPECIALISTS IN PISTON RINGS

106 SANFORD ST. MUSKEGON, MICH.

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California to Spend $10,000,000 on Roads in 1920

Plans for the expenditure of $800,000 a month, a total of $10,000,000 for the year, have been completed by the California State Highway Commission, according to advices from Highway Engineer Austin B. Fletcher.

Four important "ifs," however, stand in the way of the completion of this ambitious program, according to Engineer Fletcher. They are: If the money markets are favorable for the sale of State Highway bonds; if the United States Railroad Administration will assign enough freight cars to supply the contracts with the necessary material; if the supply of labor does not run short; if the wage of labor becomes fixed or more nearly so than at present.

The work to be done under the program will proceed simultaneously in all parts of the state. The earliest work will be the completion of the gaps in the trunk lines and the work on county seat laterals.

Engineer Fletcher predicts that the year 1920 will doubtless see completely paved the coast route from San Francisco to San Diego and the valley route from San Francisco via Sacramento to Los Angeles. The commission is now engaged upon the study of the pavements through the incorporated cities and towns.

California Highway Commission's Surveys Vindicated

Judge George A. Sturtevant, of the Superior Court of San Francisco, has just decided the case of E. T. Johnson, a State highway contractor, versus the State of California, in favor of the State.

Johnson had a contract some time ago with the State of California for the construction of a section of State highway in the Shasta River canyon between Hornbrook and Yreka in Siskiyou County. Johnson completed his contract, but claimed that the surveys and estimates made by the engineers of the California Highway Commission were erroneous and that claimant had performed work to the amount of $46,965.33, for which he had not been paid. The State's engineers, on the contrary, asserted that their work had been carefully done and that Johnson had been fully compensated for his services. A trial lasting three weeks was held at San Francisco recently which was very bitterly contested by both sides, many eminent engineers of the Pacific Coast being called as expert witnesses.

Judge Sturtevant has just decided that the State's engineering was carefully done and that no errors, so far as the testimony showed, were carried into the final estimate, and that he was bound to accept the estimate as allowed by the California Highway Commission as final and conclusive in the case.

The decision is considered to be a complete vindication of the system of surveys devised and established by the California Highway Commission for the prosecution of State highway work in California. This system is quite closely followed by the Bureau of Public Roads, United State Department of Agriculture, and by the highway departments of the different states. This is the first case in which the California Highway Commission's methods of highway surveying have been questioned.

Scott National Highway Bill Introduced

On December 5, Hon. John E. Raker representing sixteen counties of Northern California in Congress, introduced the bill drawn by Wisner Gillette Scott for a national system of highways, planned upon the basis of regional representation instead of federal domination, which domination is the essence of the Townsend bill.

The Scott plan not only would greatly hasten the period of actual construction, but would greatly lessen the labor in Washington in administering both the national plan and the present federal aid plan—to the continuance of which Senator Townsend, by the way, is opposed, though it is a vital need.

The Scott plan automatically provides for roads through federal areas. It has other points of great superiority over the Townsend plan (treated editorially in this issue).

Automobile Stealing Now a Federal Offense

Today if a person steals an automobile and drives or ships it into another state he has committed a felony and a violation of a Federal law. He will be tried in Federal courts and is liable to a fine of $5,000 or five years' imprisonment.

The National Motor Vehicle Theft Act passed the House of Representatives and the Senate and became a law Oct. 24, although not signed by the President owing to his illness. The automobile thus comes under the classification of interstate commerce.

The question of the thief's intention to steal, sell or merely joy-ride in a car which he has come by unlawfully is the loophole through which in numberless cases he has passed through local courts with skin unscathed. Under the Federal law the prosecution need not consider his frame of mind; what he does is alone considered.

The same penalty of $5,000 fine, or five years' imprisonment, may be visited upon any person who, knowing a car to be stolen, receives, stores or sells it.

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Nebraska Chips In

We want to express our appreciation to you for sending a representative out here to do missionary work. He worked very diligently all the time he spent with us, and as a result obtained some very satisfactory business for us.

We recently sent in an order for stock, but your representative sold so much of the graphite lubricants while here, we were obliged to place another stock order.

We want to assure you of our utmost co-operation in building up the Dixon business in this section and thank you again for the interest you have manifested.

Yours very truly,

POWELL SUPPLY CO.

Omaha, Neb.

Co-operation always works best when it is two-sided

Write for booklet 50-G

DIXON'S
GRAPHITE
Transmission and Differential
LUBRICANT

JOSEPH DIXON CRUCIBLE COMPANY
Established 1827
JERSEY CITY, NEW JERSEY

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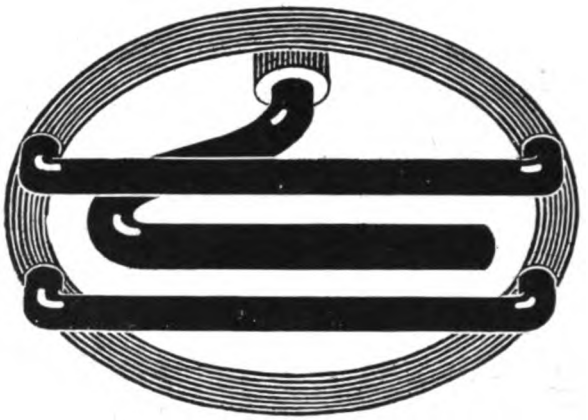

Intensive advertising will sell Fyracs during 1920, and keep them sold. Your customers will be repeaters on Fyracs.

Look at the illustration of Fyrac's *one-inch firing surface*. This illustration is the feature of Fyrac's 1920 campaign.

One-inch firing surface, black and bold, is the phrase that Fyrac's national and local advertising will wedge into the consumer's brain. Buy Fyrac, and supply the demand.

FYRAC MANUFACTURING CO., *Rockford, Ill.*
Export Department Werner & Butts, 336 Whitehall Bldg., New York, U.S.A.
Canadian Department Campbell Agencies, 350 Kinnon Bldg., Toronto, Canada

FYRAC

SPARK PLUGS

Durable

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GILL

The Perfect One Piece Piston Ring

"See that joint? That's the reason why I install Gill Piston Rings on my jobs. It's the one piston ring that I consider mechanically perfect."

When you hear a mechanic talking like that you may be sure there is something about the Gill Piston Ring that makes it different from any other. Mr. Dealer, try it out this way. Show a Gill Ring to the best automobile mechanic you know and see if he doesn't endorse what the man in the picture is saying.

One look at the double step interlocking joint shows him that the Gill Ring can expand from 1/8" to 3/16" without any loss of compression. That means it will adjust itself to oversize, worn or out of round cylinders within reasonable limits.

Look into this piston ring proposition for yourself and when you compare the Gill with any other ring on the market you will be convinced like the thousands of other men who handle this ring exclusively.

Send for the new Gill Piston Ring Size Directory, complete, convenient, and full of just the information you need. It is free to the trade.

Dealers—Ask your jobbers about them
Jobbers—Write to us for information

The Gill Manufacturing Company
351 West 59th Street, Chicago, Illinois

Sole Foreign Agents:
AUTOMOTIVE PRODUCTS CORPORATION
Woolworth Building, New York, N. Y.

Pacific Coast Branches:

Gill Piston Ring Co.
1313 S. Figueroa St.,
Los Angeles, Cal.

Gill Piston Ring Co.
803 Van Ness Ave.
San Francisco, Cal.

Gill Piston Ring Co.,
723 E. Pike St., Seattle, Wash.

See the Gill Piston Ring Exhibit at the New York and Chicago Automobile Shows.

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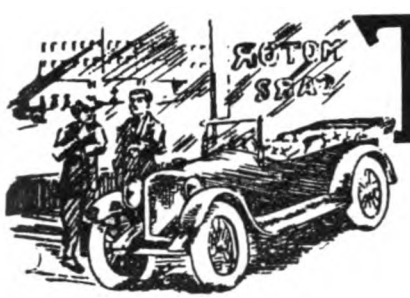

Trade Briefs and Factory Gossip

Trade Items Via Detroit.

The possibility of further reduction of train service rather than coal shortage, is what is bothering Detroit automobile manufacturers most just now. As to coal, with few exceptions the plants have enough to carry them for a month, and in some cases two months.

Where has been a sleepy village on the St. Clair River, near Port Huron, probably there will be a busy city of 35,000 within a year, with plans prepared for a city of half a million or more. It is so willed by Wills, formerly with Ford, and his associates, who bought the village site and much adjoining land several months ago. The Wills Automobile Co. is putting up a plant. A stamping plant for a Canadian company, and one for the Detroit Edison Electric Light Co., are going up. Half a dozen other concerns have bought sites. A huge baking concern will locate there and the Detroit United Railway has taken five acres for a car house. Mercantile firms have taken business lots. An ideal city, with modern two-story homes for the workers, will be evolved. The city will have manufacturing, trade and residence zones. Lots will not be sold in blocks, for speculation. Houses will be erected which will fix values to obviate gouging later by contractors erecting others.

Contracts totaling $460,000,000 were placed with Detroit plants by the Government during the war, according to figures by the state ordnance director. The American Steel & Foundry Co. had the largest amount of work, the sum being $116,000,000. Ford ranked second, $113,000,000, and so on down. The Federal Motor Truck Co. handled $3,131,000 worth of Government work.

The following tabulation of the financial size of some expansion projects in Detroit and Michigan indicates the growth of the automotive industry on the whole. A list of 19 concerns shows a total of $84,400,000. Among them are:

General Motors	$12,650,000
Maxwell-Chalmers	12,000,000
Fisher Body Corp.	10,000,000
Studebaker Corp.	10,000,000
Paige-Detroit Motor	5,000,000
Seamless Steel Tubes	3,000,000
Hudson Motor	2,250,000
Morgan & Wright	1,000,000
Goodyear	1,000,000
Wadsworth Mfg. Co.	1,000,000

In round numbers, $100,000,000 is the sum of the entire expansion program. Many of the projects already are under way, others being delayed owing to labor, steel and other conditions. Among those under way, that of General Motors includes a $5,000,000 office building in Detroit.

Ten-year penitentiary terms await automobile thieves in Detroit henceforth. A law framed for thieves and joy riders, passed August 14 last, was the basis of a recent decisive agreement between the chief of the automobile recovery squad and the prosecuting attorney. The mere taking of a machine for a ride is a felony. The grand larceny law was less severe.

Acquirement of other people's plants by General Motors has ceased, it has been announced by President W. C. Durant, but new units will be created as needed for accessory supplies, and existing production plants will be developed.

C. E. STONE,
Vice-President and Sales Director of the Reynolds Motor Truck Company, of Mount Clemens, Mich.

The Commerce Motor Co., Detroit, has acquired two more acres adjoining its present location, and new units will be erected thereon as soon as those now being constructed are finished. The company plans for a large increase in production of its 1 and 2-ton motor trucks.

Increasing Studebaker Corp. capitalization from $45,000,000 to $90,000,000 has been authorized by the stockholders. All the new stock will be common, and $15,000,000 will be offered immediately to stockholders of record November 29, at 105. The action enables the redemption of $15,000,000 7 per cent serial notes on January 1.

The price of all Stutz models has been increased $250.

* * *

Weinhardt Joins Supreme Motors.

Robert A. Weinhardt, an automotive engineer of national reputation, is the newest source of strength added to the already powerful organization which the Supreme Motors Company of Warren, O., has builded. Mr. Weinhardt is the third of the Continental Motors Co.'s staff to join the Warren Corporation. A. H. Zimmerman, who was the former secretary-treasurer of Continental Motors, is now vice-president and general manager of Supreme, with V. M. Smith, formerly superintendent of Continental, occupying a similar position with Supreme Motors.

* * *

Dearborn Equipment Co. Organized.

The Dearborn Equipment Co., capital $50,000, has been organized in Kalamazoo, Mich., and will manufacture garage equipment. Machinery has been purchased and installed temporarily in the plant of the Atlas Press Co. The officers are: President, John H. Penniman; vice-president, H. V. Garvey; secretary - treasurer, Charles S. Bush.

* * *

Keller Opens Own Agency.

Ralph E. Keller, associated for several years with the Martin V. Kelley Adv. Agency, has opened a new advertising firm in Chicago, the R. E. Keller Co. He has been identified with some of the largest advertising campaigns in automobiles sales history.

* * *

Lee Tire Increases Capital.

The Lee Tire & Rubber Corp., of Consohocken, Pa., will increase its working capital by $1,500,000. Forty thousand of the 50,000 shares issued have been underwritten by Hornblower & Weeks at $30, to be sold at $33, while the remaining 10,000 will be sold to employes on the company's profit-sharing campaign, the stock being held in trust for three years.

* * *

More Space at Racine Factory.

The Racine Rubber Co., of Racine, Wis., the western division of the Ajax Rubber Co., of Trenton, N. J., has awarded contracts for the erection of a four-story addition to its factory. The building and equipment will cost more than $100,000. The new building will be ready for occupancy about November 15.

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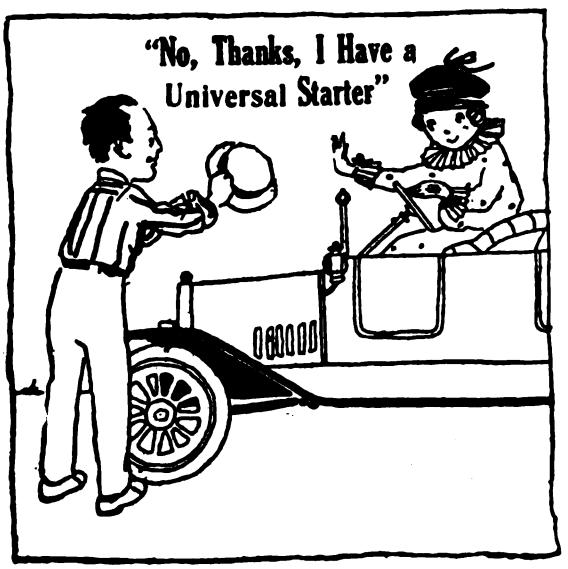
"Do You Still Crank Your Ford?"

—Do you still wade 'round in the mud on rainy days to get your car started?

—If you stop for a moment and kill your engine, do you still have to get out and wind her up?

—Do you think it necessary to be a slave to the crank?

"Whew, Wish I Had One!"



Thousands of Others Have Quit—Why Not You?

Thousands of other Ford owners have ended their cranking careers; they now step into their cars, **USE THE UNIVERSAL STARTER** and are away in less time than it now takes you to pull the priming wire on your Ford, and they don't run the risk of a broken arm or a sprained wrist.

Can Be Installed in 30 Minutes

Installation harmless to your car. Made of drop forged steel, and not a penny of upkeep in sight. A child can operate it in perfect safety. Back-firing can neither harm driver nor starter, protected by our automatic release.

"NEW UNIVERSAL STARTER"

Guaranteed for the Life of Your Car

$29.50

Including Foot Primer and Hot Shot Battery

Sold on a Positive Money-Back Guarantee

Guaranteed to work perfectly as long as your Ford will run. This guarantees the whole starter or any part of it. It's sold on a money-back trial. If it is not perfectly satisfactory we'll take it off your car and refund the purchase price. We know that's a strong guarantee, but also know that the Universal is perfect. Every part of it drop forged steel, and experience has proved that it will withstand the most severe abuse. It's absolutely fool-proof. Don't confuse the "Universal Starter" with others you have seen for sale. This is its first appearance in your territory. You must see it demonstrated to appreciate it. At the price this starter is offered you can within a short while save the cost of Universal Starter in gasoline and oil wasted in letting your engine run. Guaranteed to start any FORD that will crank. Demonstration stores are now located in most of the important cities in the United States and the territory in most of the States has already been sold. Counties in your territory may be closed any day. ACT NOW.

Live Agents Wanted!

Be Our Agent—Make Good Money Selling Our Universal Starter

The Universal sells itself. If you want a proposition that will bring unusually big returns for a nominal investment, write or wire, and preferably see us NOW for agency in your city, county or section. Some choice territory still open in Canada, U. S. and Mexico.

Universal Starter Company

Toronto :: Canada

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Strengthens Portage Personnel.

John W. Maguire, president of the Mid-West Rubber Association and vice-president and general manager of The Portage Rubber Co. has brought to The Portage organization men with established records of success in the ranks of the country's biggest tire builders.

For example: J. T. Johnson, works manager and a Cornell man, was with the old Diamond Tire organization, and was with the Goodrich following its consolidation with the Diamond Tire from 1910 to 1918. J. D. Pasho, sales manager, had been with the Firestone Co. and had also been manager of the Atlanta branch of the Portage Rubber Co. E. W. McCreery, assistant sales manager, was for 16 years with the Goodrich Co. and more recently with the Republic. H. M. Kerr, comptroller of the company, was for many years auditor of factory accounts for The B. F. Goodrich Co. R. J. Cole, manager of the credit and collection department, was for many years with the Goodyear and Kelly-Springfield companies.

* * *

Miller Rubber Stock Increased.

The Miller Rubber Co., of Akron, O., has made an increase of $800,000 in common stock and present stockholders are privileged to subscribe on a basis of one new share to five of the older issue they own. During the first seven months of the present year the company's sales increased 56 per cent compared with the same period in the year 1918.

* * *

Organizes Distributors' Tire Co.

Owen Moynihan, for the past two years general sales manager of the Amazon Rubber Co., Akron, O., has resigned his position to assume the active management of the new Malay Rubber Co., which is being organized by distributors and dealers in all parts of the country for the purpose of manufacturing a high-grade tire and merchandising it along lines that the distributors and dealers shall determine. In the Malay Rubber Co. Mr. Moynihan will be associated with tire experts to care for every phase of manufacture, production, sales and advertising. The new company offers probably the first instance in the history of the tire business where a tire manufacturing concern will come into the market with its entire distributing organization completed and its entire output sold before manufacturing is well under way. The Malay Rubber Co. will build a complete new plant in Cleveland, where executive offices have been opened at 1035 Guardian building.

OWEN MOYNIHAN,
Manager of the new Malay Rubber Co., of Cleveland, Ohio.

Now Aluminum Manufactures, Inc.

The Aluminum Castings Co., Cleveland, O., has been reorganized under the name of Aluminum Manufactures, Inc., with the additional capital needed to extend and develop the manufacture and marketing of aluminum, brass and bronze products. The new company is planning to construct an aluminum forging plant and other plants for making finished aluminum products. The management will be the same as that of the Aluminum Castings Co., and with its increased facilities will be in better position than ever before to keep pace with the constantly increasing demands for the various forms of aluminum products.

* * *

Kuehn Now With Dunlap-Ward.

Charles Kuehn, who has been with the Packard Detroit branch for some time past, has resigned his position with that company and will enter the organization of the Dunlap-Ward Advertising Co., Cleveland. Mr. Kuehn is an old-time Packard man, having been assistant in the advertising department under Ralph Estep and was also with Frank Eastman for a number of years when the latter was advertising manager of the Packard.

* * *

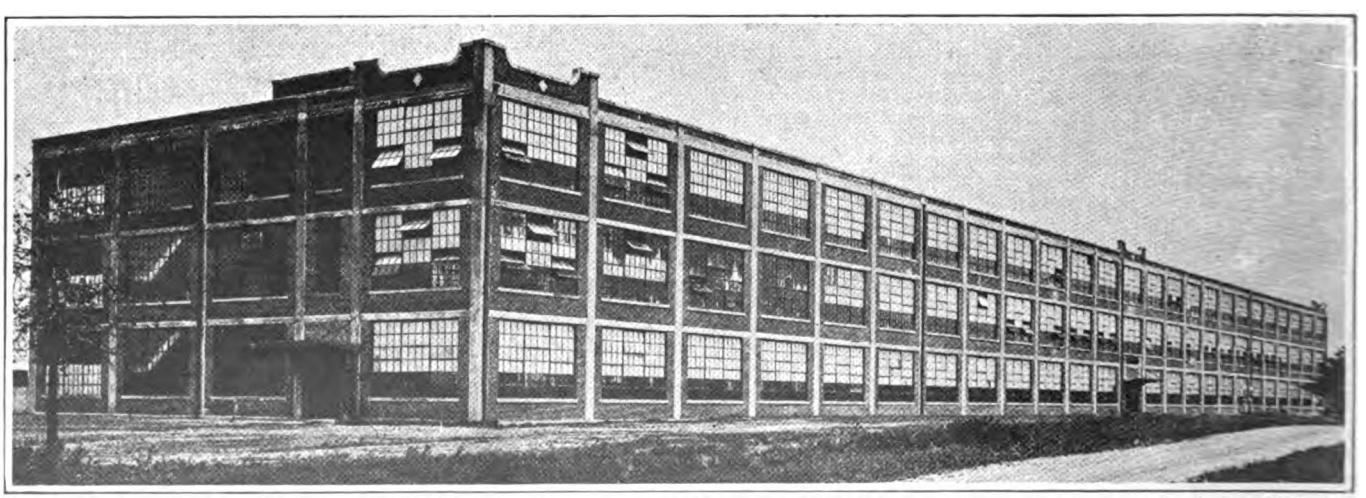
Pa. Rubber Helps Men to Own Homes.

The Pennsylvania Rubber Co., which makes the Vacuum Cup Tires, has purchased approximately 200 acres of land, to the south of Jeannette, where the big factories are located, and called in a corps of expert town planners and architects to develop a model town, wherein its workmen might, on easy payment, acquire their own homes.

* * *

Heads Torbenson Advertising.

The Torbenson Axle Co., of Cleveland, O., has appointed Arthur E. Dixon advertising manager. He has been in the automobile advertising field for nine years, first with the Packard and later with the Hupmobile factory.



LAFAYETTE MOTORS SECURES LARGE MODERN FACTORY BUILDING AS FIRST UNIT OF ITS INDIANAPOLIS PLANT.

With a large modern plant as a basis of operations, one of the gravest problems usually confronting new manufacturers has been automatically removed from the Lafayette Motors Co., of Indianapolis. The present plant, while it is amply large to take care of immediate production requirements, is only the first unit of a model industrial layout. It was used by the Government during the war for the production of hand grenades and other ordnance, and 2500 were employed in it. It is located on a tract of 25 acres of Lafayette property. The factory is now being equipped with machinery especially adapted to the advanced specifications of the Lafayette car designed by D. McCall White. The company plans to exhibit a car during the New York show and expects to be in production early next summer. Situated at Mars Hill, a suburb 4½ miles from the center of Indianapolis, it is the intention of the company to encourage the development of the industrial community, already well started, as a principal source of factory labor.

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Kap Adjustable Wheel and Spoke Lock

For Wood or Wire Wheels

Now Ready for Delivery To Jobbers Only

CALIFORNIA POPPY COLOR ENAMEL—*Distinctive—Conspicuous*

MADE IN TWO SIZES ONLY

3 to 3½ Inch Tire, Regardless of Kind of Tire, Price $6.00
4 to 5 Inch Tire, Price - - - - - - - $7.00

Nickel Plated One Dollar Additional.

Made only by the

Kap Manufacturing Co.

281-285 Natoma Street, SAN FRANCISCO

Other Members of the Kap Family:

Automatic Locking Coil and Switch Lock for Fords; Automatic Locking Ignition Lock for "490" Chevrolet Cars, 1918 Model; Automatic Locking Tire Carrier for one or two demountable rims for Fords, rear or side; Adjustable Tire Carrier for one or two Ford Tires, rear or side; Automatic Locking Robe Locks, Etc., Etc., Etc.

COMPLETE CATALOG SENT ON APPLICATION.

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SCORED CYLINDERS

Repaired by "Lawrence Patent Process" with Silver-Nickel Alloy, fused electrically. No warping or enlarging of bore. Same piston and rings fit. All work absolutely guaranteed. Reshipped 24 hours after received. Endorsed by all manufacturers. Also burnt and oil scores repaired. Plants in all principal cities.

Established 1862
L. LAWRENCE & CO. SAN FRANCISCO, 116 Hyde St. — LOS ANGELES, 1030 South Grand Ave.

All infringers will be prosecuted to full extent of the law.

Goodyear Has Fine Retrospect.

The Goodyear Tire & Rubber Co., of Akron, O., has had during 1919 the most successful business year in its history. Gross sales for the fiscal year, ended Oct. 31, were $168,914,982, an increase of $37,677,600 over the previous year. Net profits, subject to federal taxes, were $23,277,245, compared with $15,388,190 for the year before.

President F. A. Seiberling, in a recent report to stockholders, stated that during the year both issues of outstanding preferred stock had been called for redemption and the common and preferred stock increased to $100,000,000.

"Within the year," stated the president, "the Goodyear Tire & Rubber Co. of California has been organized with $20,000,000 capital, and the Pacific Cotton Mills Co., $6,000,000, having sold to the public at par $8,000,000 of 7 per cent preferred stock of the rubber company, and $2,000,000 of the cotton company, the Akron factory buying all the common stock of both companies in the amount of $5,000,000."

* * *

Van Derhoof Heads New Factory.

Frederick C. Van Derhoof has resigned as general manager of the automobile department of the Standard Steel Car Co., of Pittsburgh, and announced recently the formation of the Bacon Motors Corp., of New Castle, Pa. The new company, of which he is president, will manufacture a light six, moderately priced, to be on the market early in the spring.

Officers and principal stockholders of the new concern are all men of large experience and means in Pittsburgh and other cities: Frederick C. Van Derhoof, president; F. W. Bacon, vice-president; and George N. Glass, secretary-treasurer.

The company has bought outright at New Castle a 21-acre factory site, including a new automobile factory building 500x100 feet in dimensions, capable of turning out 50 cars a day. The corporation is capitalized at $1,500,000, to be soon increased to $2,500,000, and starts business without a dollar of indebtedness.

Frederick C. Van Derhoof, president, is widely known in automobile manufacturing and selling circles, having been organizer of the automobile department of the Standard Steel Car Co., after developing the first Standard Eight car in Detroit eight years ago.

* * *

Maibohm Factory Builds Additions.

A material storage warehouse and additional dry kilns and loading platform space totaling about 30,000 square feet have already been found necessary as increases to the new Maibohm Motors Co. plant at Sandusky, Ohio, although the new factory has been in operation less than a month. A half-mile test track and about 1000 feet of new side track are also being added.

* * *

Wilkinson Directs Klaxon Sales.

Robert L. Wilkinson has been appointed sales manager of the Klaxon Co., Newark, N. J., succeeding Walter P. Coghlan, who recently resigned to go to Baltimore. Mr. Wilkinson has been with the Klaxon organization for ten years, located in various cities and traveling.

Successful Test of Cameron Motor.

The first motor of the Cameron Motors Corporation to be fitted to the new models to be placed upon the market by this company at an early date was completed at the factory at Shelton, Conn., November 17, and after 30 minutes of running, E. S. Cameron inventor of the motor, and president of the Cameron Corporation, speeded up the brand-new motor to 3,500 revolutions per minute, and ran it at this speed for five hours straight. The motor was quiet, showed almost no vibration and no cam or valve noise was to be heard.

* * *

Twitmyer Heads Stevens-Duryea Sales

Following closely upon the culmination of far-reaching plans for expansion, Stevens-Duyea announces the appointment of George E. Twitmyer as general sales manager. Mr. Twitmyer is well known in the motor car industry through his long connection with The Peerless Motor Car Co.

* * *

Clydesdale Increases Its Capitalization.

The Clydesdale Motor Truck Co., Clyde, Ohio, has just announced an increase in its capitalization from $500,000 to $1,500,000. The original capitalization of the company was found inadequate to take care of the rapidly expanding business.

The present authorization permits the issuance of $1,000,000 worth of common stock and $500,000 worth of preferred stock, at a par value of $10. The entire preferred issue has been underwritten by a well-known Cincinnati banking concern.

OVERCOMING DAZZLING HEADLIGHT PROBLEM BY MOVING REFLECTOR TO DEFLECT LIGHT BEAM.

Two big automobile companies, whose engineers have been constantly working on the glaring headlamp problem, have perfected devices which represent the farthest advance in the way of anti-glare devices. They are standard equipment on Lexington and Cadillac cars. Both levices make use of the same principle, that of moving the reflector so as to deflect the projected beam of light, differing only in operating details. When in the upward position they throw a powerful light several hundred feet aheal. But in the drifing, or tilted position, the light is confined to a level below the eyes of the driver of an approaching car, yet lighting the road distinctly for a distance of 75 to 100 feet ahead of the car.

Lexington's two-way headlamp is a pneumatic device. It has movable reflectors which are operated by vacuum suction from the motor. The reflectors, normally, are in the down, or tilted position. But they may be lifted to the upward position by simply a touch of the control on the dash or instrument board. The Cadillac tilting lamp is on the same principle except that it is mechanically operated through the medium of a lever mounted on the steering column. The illustration shows the Lexington device in operation.

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AN automobile tire, like a man, is known by the company it keeps. Have you ever noticed how Kelly's predominate on the better grade of cars?

Long wear can only be proved by long experience. The makers of the Hudson car, for instance, have used

Genuine **Pantasote** Top Material

exclusively as standard equipment on Hudson cars continuously since 1914. No top material is too good for your car.

PIERCE ARROW	REO SIX
SCRIPPS BOOTH	KISSEL
PAIGE LINWOOD	WHITE
LOCOMOBILE	COLE
PREMIER	CHALMERS
HUDSON	COLUMBIA
MERCER	CADILLAC
CUNNINGHAM	REVERE

Look for Pantasote label inside the top —it protects you against substitution which is not uncommon.

The Pantasote Company
Bowling Green Building
New York

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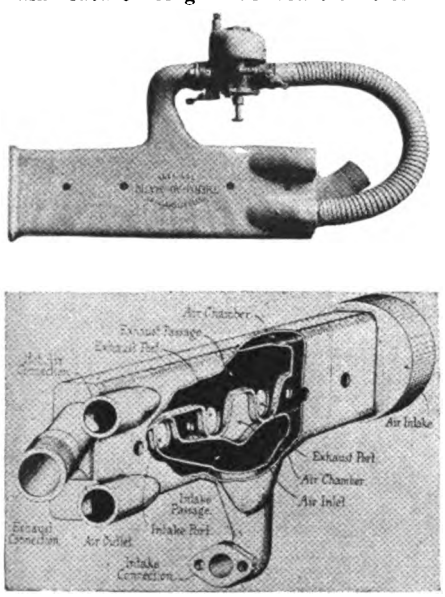
New Things in the Accessories Field

THERM-AU-MATIC INTAKE EXHAUST MANIFOLD.

A new and improved design of combination intake and exhaust manifold for all makes of cars has been brought out by the Auto Products Co., 1780 Broadway, New York. This manifold is a casting combining both intake and exhaust, the main feature being an air-draft control for



THERM-AU-MATIC INTAKE EXHAUST MANIFOLD, AND CUT-OUT VIEW SHOWING INTERIOR.

the intake, which automatically keeps the heat transfer to the intake constant regardless of speed or load conditions. In addition the manifold heats the air for the carburetor. With a constant intake temperature, constant temperature of carburetor air, there is naturally a saving in fuel, more power and a better running engine.

In order to keep the temperature of the intake passage at its most economical value at all speeds of the engine, air ducts are provided in combination with the exhaust and intake passages, and these air ducts are supplied with air in proportion with the speed of the engine by means of a fan driven by the crankshaft. The exhaust heating surfaces of the intake passage and the cooling surfaces of the air ducts are so proportioned that, at the lowest speed of the engine, the heat supplied by the exhaust passage raises the temperature of the intake passage by just the proper amount so as to bring the fuel temperature to its proper economical degree. If the speed of the engine is increased and more heat is conveyed by the exhaust passage in consequence, the proportionately increased velocity and volume of the air currents passing through the air ducts will have a correspondingly greater cooling effect so that the surplus heat is carried off and thus the temperature of the gas mixture is kept constant at all speeds of the engine.

In the accompanying drawing is shown the intake manifold passage which occupies the lower portion of the manifold casting. The dividing walls between the intake and exhaust passages are so arranged that certain portions are common to both passages, these common wall portions forming the heating surfaces of the intake passage. At its center, opposite to the inlet arm, the upper wall of the intake manifold passage is provided with a downward bend, "G," which is kept cool by internal air passing through a transverse duct located immediately above it.

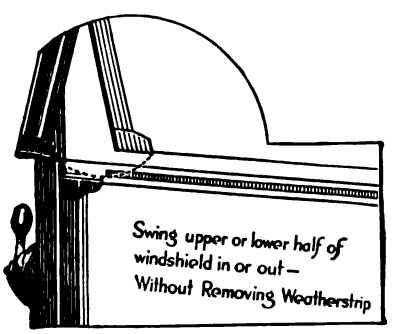
The exhaust passage is located in the upper part of the casting and is arranged in such a manner that portions of the walls separating the different parts are common to both the exhaust and intake ducts, these common portions forming the heating surfaces of the intake manifold.

Enveloping the exhaust passage is an air passage and enveloping the intake passage is another which are bell-shaped at their forward ends. The air passages are separated by a horizontal division wall, each passage terminating in an outlet suitable to receive an air-conducting pipe. In cold weather, the air heated by contact with the exhaust passage is carried to the air intake of the Carburetor (C), the upper duct thus serving as a stove for the air supply. In moderate cold weather, the pipe is detached from the upper outlet and attached to the lower outlet so that, in spring and fall, the lower duct acts as the air supply stove. In hot weather both outlets are left open to the atmosphere and the passages thus act as ventilators for the manifold.

TRI-CO 2-WAY WEATHER STRIP.

Weather strips for preventing the drip of rain or draft of air through the middle opening of the windshield may make it difficult to open the windshield when required. The Tri-Co 2-Way Weather Strip is manufactured by the Tri-Continental Corp., of Buffalo, N. Y., to avoid this disadvantage.

The Tri-Co strip stays on the glass, while allowing it to be opened inwardly and outwardly. It fits also the overlapping type of Ford windshield, forming a perfect seal by allowing the rubber to fold downwardly between the glasses. The Tri-Co 2-Way trip sells for $1.



TRICO 2-WAY WEATHER STRIP KEEPS RAIN OUT OF WINDSHIELD DIVISION.

ROEDDING SIGNAL TAIL LIGHT MAKES FOR SAFETY.

One of the newest automobile accessories and one which has met with a ready demand is the Roedding Signal Tail Light which is manufactured by the Grand Rapids Brass Co., Grand Rapids, Michigan. Practically all rear-end collisions are due to the inability of a driver to clearly tell

ROEDDING SIGNAL TAIL LIGHT.

the driver behind just what he intends to do. An extended arm is also confusing. Besides there is great danger when the emergency brake must be applied as the driver cannot take both hands from the steering wheel. The result is that the driver behind has had no warning and consequently no chance to avoid a smash-up and possibly injury to occupants.

The Roedding Signal Tail Light has eliminated this danger by flashing the proper signal in large clear unmistakable letters. Whether it is "Stop"—"Left"—"Right" or "Back," the signal desired appears on a big 10 by 3½-inch plate on the rear of machine. A small 2½-inch disc attached to the steering wheel controls all signals, and without taking hands from the steering wheel the driver can make his intentions understood and at the same time give his undivided attention to the roadway ahead.

The Roedding Signal operates by electricity from battery or cells. It is waterproof, dust-proof and fool-proof, and can be quickly installed by a universal bracket to any make of car. When the car is moving forward only the red tail light shows.

Inasmuch as laws have been passed in some States requiring a suitable signal on the rear of machines, many of the largest dealers and sales agents in the country have started pushing the Roedding Signal and it is being readily accepted, especially by the city driver who realizes the danger of driving in conjesting traffic.

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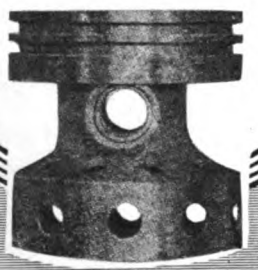
ZEPHYR PISTONS

(PAT.)



DURABILITY POWER SPEED ECONOMY

ZEPHYR pistons hold many records of world interest since 1910 when they established world's record of 100 miles per hour for three consecutive hours.

ZEPHYR pistons were used in the Atlantic flight by Alcock-Brown, also in the R34 in its 6,000 mile flight from England to America and back.

The World's Best Piston Since 1910

The
Wridgway Company
Inc.
HALLSTEAD, PENNA.

Send for Booklet

DURABILITY POWER SPEED ECONOMY

U.S.PATENT
975301

Automotive Equipment

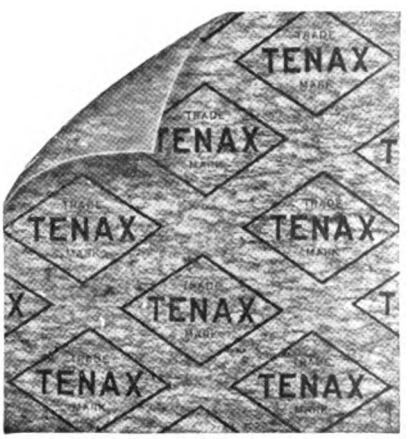
and Asbestos Products

—Greater Service at Less Cost—

We render a degree of service and supply a quality of material that bring our customers back year after year and that explains our supplying America's most desirable automobile, tractor and engineering trade. You will enjoy with us, a more reasonable price and better satisfaction than you have ever before received.

TENAX Compressed Asbestos Sheet Packing

The Original Blue Sheet



Ideal for any joint. Tenax is permanent whether subjected to gas engine exhaust, cylinder explosions, acid, alkali, superheated steam or any other active agent. Can't burn, rot or squeeze out.

The finest packing made for Automobiles, Tractors, Gas Engines and Steam Engines.

Sheets 50 inches square. Thickness 1/32 inch to 1/8 inch, inclusive. Also in 1/64 inch thickness in black graphited sheet only.

Pack with Tenax and forget the joint forever.

Adpasco Treated Gasket Paper

SUPPLIES A NEED—MEANS A SAVING

A thoroughly waterproof paper toughened and especially treated to make it excellent for all automotive uses except in contact with burning temperature. A big value for general use around garages and shops.

Cuts up easily with no waste and holds its shape even after a water or oil soaking. Stands up indefinitely and is permanent in the hands of a good mechanic.

Sheets 36 in. by 40 in. Samples on request.

ADPASCO TREATED GASKET PAPER

YOUR OWN JOBBER

can supply you. Ask him for our products or write us direct for name of nearest jobber.

Get Our New Automotive Supplies Catalog From Your Jobber or from Us.

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NEVILLE STEERING WHEEL GIVES ROOM TO GET IN AND OUT OF CAR.

The motorist demands comfort in riding and driving. He or she has been through the experience of sliding out from the driver's seat, past a steering wheel that made him or her squirm to get in or out of the car and maybe tear part of the clothing.

For a number of years there has been manufactured at Detroit, Mich., the Neville More Room Steering Wheel, which enjoys the largest business on this needful article

NEVILLE STEERING WHEEL AFFORDS PLENTY OF ROOM GETTING IN AND OUT OF CAR.

in the industry. The wheel gives 8 more inches of room, is of good construction with an aluminum spider, making it attractive in appearance. On some cars it is absolutely an essential. It is standard equipment on a goodly number of makes and is in large demand among other owners. It is made to fit all makes of cars.

UNUSUAL WIRE WHEEL GUARANTEE.

The Stewart Wire Wheel Corp., Frankfort, Ind., manufacturing wheels for Ford and Chevrolet cars, is giving the following remarkable and unusual guarantee with each set of wheels sold: "Every set of Stewart Wire Wheels and parts is guaranteed for one year. Should the material or workmanship prove defective, or should any breakage or damage (except to enamel) be sustained in an unavoidable accident during that period, the wheels or parts thereof will be replaced by us without charge to the original purchaser."

WRIST INSURANCE FOR FORD CRANKERS.

The Ford car is always having new honors thrust upon it in the way of sundry refinements and devices calculated to make its path a smoother one. There will always be a demand for safety devices, whether on Fords or Rolls-Royces, and any means of eliminating the disconcerting and dangerous back-kicking qualities of the Ford crank certainly comes under this head.

The Atlasta Auto Safety Device is an attachment which fits over the Ford crank and makes it impossible for the crank to kick back. The principle is simple. By means of a ratchet and pawl of durable construction the device automatically disengages the crank from the crankshaft whenever the engine back-fires.

Cold weather and an advanced spark make no difference, according to the makers, the Atlasta Specialty Mfg. Co., of St. Louis, Mo. It can always be depended on to protect the cranker's good right arm. The Atlasta Auto Safety Device, selling at $2.50, has found a ready demand and the first advertisements placed in carefully selected trade papers brought inquiries from dealers and Ford owners throughout the country, resulting in thousands of sales.

FIBER AND STEEL TAKE JERK FROM CAR TOWING.

Taking away the jerk of the ordinary automobile towing line and replacing it with double strength are the claims made for the Au-To-To Line by the Waite-Rhoads Co., 1455 S. Broadway, Denver, Colo. A combination of fiber and steel cable wire has solved the problem, taking out the jerk and the tearing loose of springs and bending axles.

The Au-To-To Line is made in two sizes. The passenger car size is priced at $6, a net $4.50 to dealers; the truck size at $8, a net $6 to dealers.

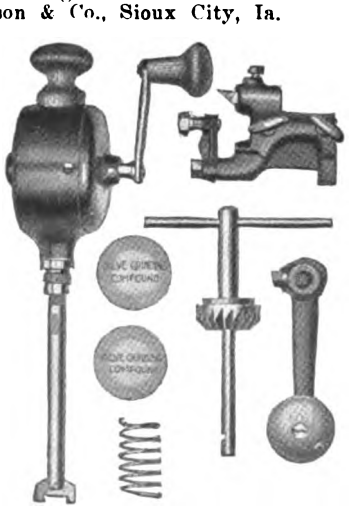
MOTOR WEST reaches a larger percentage of dealers than any other automobile publication circulated on the PACIFIC COAST.

LITTLE SIOUX FORD TOOL SET FOR FORD VALVE GRINDING.

Especially designed for the Ford engine, the Little Sioux Ford Tool Set combines the utmost ease and smoothness of operation with correct mechanical working principles. It consists of the Little Sioux Ford Valve Grinder, the Ford Valve Seat Reamer, the Refacing Tool, the Valve Grinding Compound and the Valve Spring.

With the Valve Grinder a steady turn of the handle in one direction gives the valve the reciprocating or forward and backward movement which is absolutely necessary for perfect valve grinding. At the same time it automatically advances the valve on its seat by alternating a full turn in one direction with a quarter turn in the opposite direction. Thus it gradually completes the circle, assuring an even grind and a perfect contact of all parts of the valve with all parts of the valve seat.

The Valve Seat Reamer accurately grinds the valve seats and makes the valves perfect fitting. The Refacing Tool smoothes the face of the valve in short order. The Valve Spring is placed in the valve chamber and on the valve stem to permit "jumping" and avoid too much pressure in grinding. The manufacturers are Albertson & Co., Sioux City, Ia.

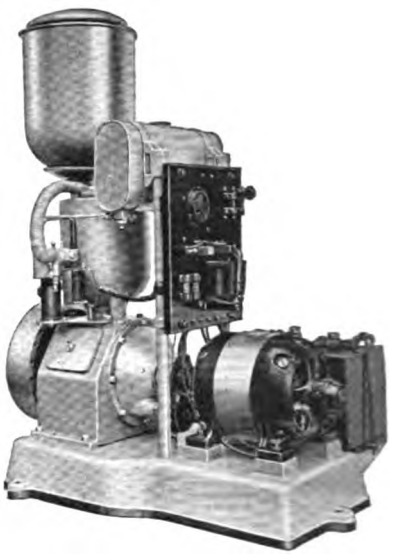


LITTLE SIOUX FORD TOOL SET.

NOTABLE CONVENIENCE IN HOLT POWER PLANT.

The occupants of the house or farm where Holt Power-Light equipment is installed start or stop the plant by pushing a wall button anywhere in the house or in the barn. In the case of being used downstairs or in the barn two controls are used and three-way switches. When three-point control is wanted four-way switches are used between the first and last controls.

The average user prefers two controls only. The first switch is usually on the



THE HOLT POWER LIGHT PLANT.

first floor of the house, the second in the barn. When the plant is started operating, the user turns on the lights in the house and elsewhere as needed. He need not go to the plant to start or stop it.

The manufacturers of the Holt Power-Light plant are the Automatic Light Co., Inc., of Ludington, Mich., headed by L. W. Holt, president. The advantages and comforts brought by an efficient small electric light and power plant can hardly be overrated.

The Holt plant eliminates storage batteries and their uncertainties, has a reasonable first expense, low maintenance cost and is simple and easy to operate. It consists of a one-cylinder, water-cooled gasoline engine, with a normal r. p. m. of 1600; a water supply tank and condenser; a starting and ignition battery; a special generator, and a simple control switchboard mounted on two vertical standards. The complete plant is assembled on a substantial iron base.

TWO SEPARATE SPARKS AVOID PLUG SHORT CIRCUITS.

Five points of excellence are claimed for the Twin-Fire Spark Plug. One is, it fires a two-series spark, one of the two points fires if the other fouls. Also, continued hot explosions will clean the fouled one again. Secondly, the sparks are doubly intense, igniting a greater volume of gas for the explosion.

It need not be cleaned so often; it keeps firing after one spark gap is short circuited for any reason—point number three.

The spark is itensified because the voltage is increased. Reason number five is: The Twin-Fire Spark Plug costs no more than the ordinary plug, but gives longer service. Manufactured by the Twin-Fire Spark Plug Co., of Detroit, Mich.; handled on the Coast by the U. S. Manufacturers Sales Co., 612-18 Pittock Block, Portland, Ore.

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FREE SERVICE

ON

HI-TEST LUBRICANT

Drive up to our Service Stations. They will drain the old oil from your transmission and differential and fill them with **HI-TEST.**

You are charged only for the lubricant. The Service is ***FREE.***

MANUFACTURED BY

United Products & Sales Corporation

512 Second Street :: San Francisco, Calif.

Our Service Stations are located at

Essex Garage
819 Ellis Street
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Smith's Service Station
91 12th Street
Oakland, Calif.

PORTAGE TIRES

Absolute Satisfaction

CORD AND FABRIC

Not the Cheapest in Price, but the Best in Service

FACTORY BRANCHES

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Los Angeles, Cal.

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Kleiber

MOTOR TRUCKS

Reliable—Powerful—Efficient

KLEIBER & CO., Inc.

MOTOR TRUCK MANUFACTURERS

11th and Folsom Streets,
San Francisco, Cal.

L. S. LUARD **H. A. McMULLEN**

Olive Street Garage

Authorized Rayfield Factory Service Station.

RAYFIELD CARBURETORS SERVICE STATION

OPEN DAY and NIGHT.

Tow-car service at any hour.
Repair Shop in connection.

846 South Olive Street, Los Angeles
Automatic 61009. **Main 7227.**

GRANT SIX

You will agree with us that the new Grant epitomizes, smartness, comfort and fine engineering. Every mechanical detail measures up to the highest expectations.

GRANT MOTOR CAR CORPORATION
CLEVELAND, OHIO

San Francisco, Cal.—The J. & D. Tire Co. of California has applied to the state corporation commissioner for permission to change its name to San Francisco McClaren Rubber Co.—The F. W. Wolfrom Repair Co., 724 Van Ness Ave., has been bought by H. and J. Smith.—The Berg-Bryant Tire Co., Miller tire dealer, has moved to Post and Leavenworth Sts.—The McFarland Motor Co., new agent for Patterson cars and Duplex trucks, has located at 1204-6 Market St.—Larkins & Co., automobile body builders and painters, have moved to Geary St. and Arguello Blvd.—The American Motor Repair Co. has opened to do a large business in a new reinforced concrete two-story building at Post and Gough Sts.—The Pacific Coast Motor Sales Co., Inc., has been incorporated for $25,000 by M. R. Jones, A. M. Watkins, W. K. Powers, T. O. Wood and C. G. Dahl.—The Dock Motor Co. is erecting a two-story concrete garage, costing $33,000, at 137 Hyde St.—The Hartman Motor Co. has been incorporated for $75,000 by Martin M. Hartman, Lucille Sandquish and W. Sealey.—The two truck tire service stations of the Goodyear Tire & Rubber Co. have been consolidated in the Eaton-Lehre Corp., Fifth and Folsom Sts.

Oakland, Cal.—The Pacific Nash Motor Co. has been authorized to sell 1,000 shares of preferred and 500 of common stock to expand its business of selling Nash cars and trucks.

Berkeley, Cal.—S. D. Chapin has taken over the Berkeley Garage & Machine Co. on Haste St.

San Rafael, Cal.—Smith & Davis, new Dodge and Paige dealers, will spend $20,000 remodeling their garage.—Knexel & Becker have added the Buick agency.

Vacaville, Cal.—C. L. Bushnell has bought the Vacaville Garage from Stanley Balke.

Willows, Cal.—The Kissel and Maxwell agencies have been taken here by G. H. B. Canoles.

Crescent City, Cal.—A. E. Price has bought entire ownership of the Crescent City Garage from his partner, C. W. Nohl.

Aurora, Ore.—Stoner Brothers have bought the Frank L. Miller Garage.

Ontario, Ore.—The A. S. Brown Auto Co. has been bought by L. S. Perkins and A. C. Tovrea; it is now the Service Automobile Co.

Marshfield, Ore.—The Whitacre Tire & Service Co. has opened on Broadway.

Hermiston, Ore.—The Hermiston Auto Co., one of the finest garages in eastern Oregon and handling Dort and Ford cars, has been bought by Kellogg & Schimke.

Tombstone, Ariz.—C. J. Wynn has become manager of the Tombstone Auto Co.

Winslow, Ariz.—The Old Trail Garage has been bought by Payne & Funk.

Caldwell, Ida.—Ward Daggett and Clyde Wolley have bought the Canyon Auto Co.

Salmon, Ida.—E. M. Yearian and Will Yearian have taken over the Lemhi Motor & Supply Co.

Genou, Mont.—The Genou Garage Co. has been bought by William and Ralph Tiermeyer.

Gardnerville, Nev.—George C. Hoffman has taken the Gates Half-Sole tire agency.

El Paso, Tex.—J. B. Wood, Hewitt tire dealer in Los Angeles, Cal., has become vice-president and director of the J. B. Wood Hardware Co. here, newly capitalized at $50,000, which will handle Hewitt tires in a large Southwestern territory.

Brawley, Cal.—Charles E. Ireland has taken over the Valley Garage.

Calexico, Cal.—The Moore-Rose Garage has opened on Imperial Ave.; L. B. Kirby is manager, P. L. Moore, president.

Escondido, Cal.—Harry Schuenemann has become partner with Fred S. Martin in the Central Garage.

Winters, Cal.—The Winters Garage has been sold by Frances McGarr to J. E. Sackett, Jr.

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"Some Men need a good hard bump to wake them up"

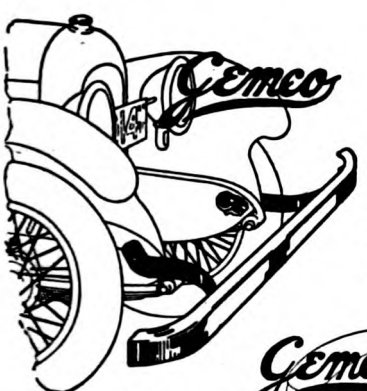
Says Jem Coe, The Traffic Cop

—and after they get that bump they realize that they need bumpers on the front and rear of their cars.

Scores of motorists are equipping their cars with bumpers every day. Are you ready to sell them the kind of bumpers they want? Experienced motorists know that spring bumpers are the only **real protection** from collision damage. Sell your customers

Gemco MILWAUKEE **Collision-Proof BUMPERS**

—the bumpers with the curved steel springs that take all the force of the collision. The bumper protects the car—the springs protect the bumper.



Gemco Spring Bumper

The most efficient bumper ever designed. A full spring type, fitting front and rear of all standard cars.

GEMCO SPRING CHANNEL BUMPER

The neatness of the Channel Bar combined with the efficiency of the Curved Spring Brackets. Fits standard cars front and rear.

GEMCO FENDER PAN BUMPER

For those who prefer enclosed spring brackets and a choice of diamond or channel bars. Readily attaches to front and rear of standard cars without interfering with splash pans or fenders.

Ask your jobber today for Gemco Bumpers, or write direct to us. You will find these new spring types the best sellers you have ever handled.

Gemco Mfg. Company

725 SO. PIERCE ST. MILWAUKEE, WIS.

THE SIGN

WE MAKE OLD ONES NEW — ABCO — CHICAGO ILL.

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The Superservice *of* Ahlberg Bearings

Ahlberg Reground Bearings are above the average in all respects.

They are manufactured in a modern factory where scientific methods rule—where every man is interested in making our product the best.

Ahlberg Bearing Company

325 West Pico St. Los Angeles

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EISEMANN MAGNETO

The Kentucky Wagon Mfg. Co., which has used Eisemann ignition as standard equipment on its trucks for some time, has just contracted for Eisemann Magnetos for the "Dixie Flyer," its passenger car.

The Eisemann Magneto Corporation, 32-33rd St., Brooklyn, N. Y.
Chicago, 910 S. Michigan Ave. Detroit, 85 Willis Ave., West.

A PEX Motor Oils

THE HIGHEST POINT OF EFFICIENCY

Gasoline "with the Punch"

PUENTE OIL CO.

Oldest Refiners and Producers on the Coast

THE World's Best Book on Motor Car Electric Systems, Electric Testing, Elementary Electricity, The Gas Engine from an Ignition Point of View and Driving the Car. 1919 Edition now ready. Special sections covering Packard, Dodge, Hupp and Maxwell Systems: Over 525 circuit and wiring diagrams up to date. 500 pages. Price $2.50 Prepaid. Order today. We also manufacture Electric Testing Instruments for Garages. Catalogue free.

H. E. PHILLIPS & CO.

(Formerly at Dayton, Ohio.)

Union City, Indiana

CLYDESDALE MOTOR TRUCKS

The "Driver Under the Hood," Clydesdale's automatic controller, is not an ordinary governor. It automatically and skillfully regulates the flow of power to immediately meet every changing road or load condition. It keeps the speed constant, prevents racing of the motor and clashing of gears.

1 to 5 Tons Net Load

The Clydesdale Motor Truck Company

CLYDE, OHIO

Los Angeles, Cal.—The Pico Tire Shop, owned by W. M. Swanson, has been moved to much larger quarters at 408 W. Pico St., where will be carried a large stock of automobile accessories and the agency for United States and Goodrich tires.—The Pacific Vesta Storage Battery Co. is having a fine new sales building erected for it on Figueroa St., south of Pico St.—The California Motor Car Corp. has leased a two-story brick factory at 736 N. Alameda St., wherein to manufacture the Californian car.—The Pacific Motors Corp. has leased the former Studebaker Corp. quarters, 1047 S. Grand Ave., containing 35,000 square feet of floor space.—Spencer, Morris & Mang, Inc., Case car and Selden truck dealers, have moved to 310 W. Pico St.

Hollywood, Cal.—Price & Albert have opened at 6151 Hollywood Blvd. a high-grade automotive repair shop, with complete machinery to take care of all makes of cars; Charles F. Price is well known locally and was connected with a large automobile manufacturer as an engineer for many years.

Anaheim, Cal.—T. F. Pomeroy has taken the Reo and Dort lines for northern Orange county.

Santa Ana, Cal.—The Wass Auto Co. is now Reo and Dort car and Reo truck dealer for the southern half of Orange county.—C. H. McCausland has taken the Orange county agency for Grant and Briscoe cars and Atterbury trucks.—Edgar & Hayes are now Oakland car dealers.—D. W. Hamilton has bought the Horns-Sure Auto Repair Shop on W. Fifth St.—The Miller tire agency has been added by the Modern Vulcanizing Works.

Orange, Cal.—Alfred Palmer has sold the Vickery Garage to W. H. Wiles.

Riverside, Cal.—The Riverside Auto Radiator Works has installed the latest method of chemically cleaning radiators; D. T. Mackay is manager.

San Bernardino, Cal.—The Western Motor Transportation Co. is building a $15,000 garage on E St.—The A. A. Peterson Co., local branch of the Los Angeles firm, has opened its new building on Third St., handling used cars.

Seattle, Wash.—The Miracle Oil Co. of Western Washington, in new quarters at 1420 Broadway, will handle Miracle Oil in Western Washington.—R. E. Kinsman, former district representative for Goodrich in Montana, has been transferred here to head city sales.—Rossman's Tire Hospital has moved to a new building at 1524 Twelfth St.

Cashmere, Wash.—The Haynes agency has been taken by W. M. Nikkelsen.

Vancouver, Wash.—J. A. Troeh and W. E. Hankel have taken the G.M.C. truck agency.

Ventura, Cal.—Lloyd S. Kelsey is now distributor for the Maxwell.—The Ventura county agency on Briscoe and Grant cars and Atterbury and Grant trucks has been taken by Brown & Sturtevant.—O. L. Pezel, Chandler and Roamer dealer, has moved to fine new quarters on Main St.

Santa Barbara, Cal.—The California Auto Top Co., has succeeded J. T. Griggs; Switzer & Wolf are the new owners.—Low's Radiator Works is now building radiators for all makes of cars and carrying a large stock of radiator cores.

Van Nuys, Cal.—Greenberg & Seibert have become Overland and Willys-Knight dealers.

Los Angeles, Cal.—The Warner Tire & Rubber Co., factory branch, has been opened at 1244 S. Grand Ave.

McKittrick, Cal.—W. H. Leach has bought the McKittrick Auto Supply Co. from Murphy & Shakow.

Centralia, Wash.—The Karne-Overland Agency has been bought by J. J. Mullaley.

Spokane, Wash.—J. E. Day, formerly associated with J. G. McLain in the Novelty Carriage Co., has opened the Pacific Auto Refinishing Co. at W818 Fourth Ave.

Hollister, Cal.—James Wiltse, tire dealer, has taken the Chalmers agency.

Modesto, Cal.—The Co-Operative Garage Association has been incorporated by Tillman Birnham, of Riverbank; J. R. Edgecomb, of Modesto; C. Sites, of Ceres; F. J. Ross, W. F. Hammersley, George F. Fallstead and L. R. Murphy, all of Modesto.—Fargo & Straight will occupy a new $17,000 building to be erected on Tenth St.

Eureka, Cal.—Axel Hermanson, Humboldt county agent for Liberty cars, is having a $10,000 garage built for himself.

Elko, Nev.—The Albatross Garage, owned by Parker & Bangs, has been made Kleiber truck agency for eastern Nevada.

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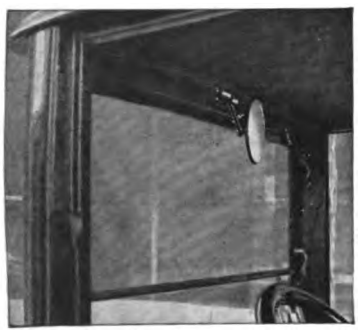
Hindview Auto Mirrors



STYLE "B"

Hindview

FOR INSIDE OF CLOSED-BODY CARS.

JUST WHAT MOTORISTS HAVE BEEN LOOKING FOR

Style "B" is inside—out of the weather—nearer to the driver's eye and gives a vision directly in back of the car.

It is fastened by wood screws to the roof, or frame of front window, on the inside of Closed-Body Cars.

Has ball joint and is furnished in all standard finishes. Lens mirror recommended due to limitation of view through rear window.

Send for Folder No. 19 describing the entire line.

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See Our Exhibit at the New York and Chicago Passenger Car Shows.

TOWER TRUCK
STRENGTH + SERVICE

A constantly increasing demand for all size Tower Trucks is evidence that the truck buying public is carefully comparing and analyzing motor truck values.

Direct Factory Branches.

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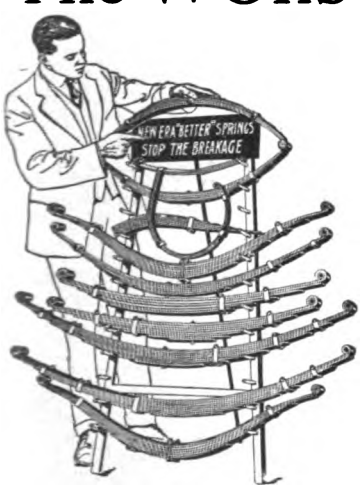
TOWER MOTOR TRUCK CO.
GREENVILLE :: MICHIGAN

The WORST ROADS



Hold No Terror for the Motorist Whose Car is "Better" Spring Equipped

No matter what make of car "Better" Springs give a greater satisfaction

Graphiting between leaves affords 2 years lubrication

They DO stop Breakage and eliminate squeak

Made for all Cars

A Specially Designed Rack for New Era "Better" Springs

The above compact rack greatly facilitates dealer sales.

With every initial order of 12 New Era "Better" Springs, this rack is supplied free.

It is surprising to note what a decided advantage this display affords, and its unusual popularity better evidences the fact.

Write for 1920 Condensed Catalogue and the nearest Western Jobber's Address

New Era Spring and Specialty Co.

1120 Hamilton Ave., Grand Rapids, Mich.

When Higher Price is Your Protection

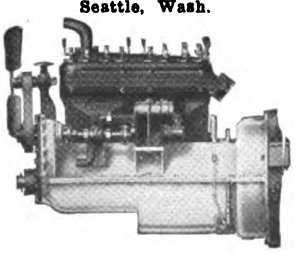
When a motor's higher price is due to expensive, finished workmanship—fitting, running-in, adjusting, testing and rigid inspection—then that higher price is a real protection to you. It insures a BETTER motor at a much lower ultimate cost. Such is the Wisconsin—a motor that is OPERATION PERFECT when it leaves the shops.

Write for Specifications.

Wisconsin Motor Mfg. Co.

Station A, Dept. 314, Milwaukee, Wis.

Pacific Coast Distributors:
Earl P. Cooper Co.,
1310 So. Los Angeles St.,
Los Angeles, Cal.
W. F. McKenney,
68 First St.,
Portland, Ore.
Chandler-Dunlap Co.,
Seattle, Wash.



Wisconsin

are helically cut and have extra wide faces, insuring silent operation and great durability. Gears are very rigidly mounted and are lubricated by a separate internal oil lead.

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OF INTEREST TO THE OWNER

CLEANING AUTOMOBILE WINDOW LIGHTS.

For many years, chemists have sought a cleaning compound that would take dirt and grease off transparent sheeting window lights used in automobile curtains without scratching, dulling, or dimming the material. This was not as easy as it might seem at first thought.

However, success has now attended their efforts. After years of experimenting, it occurred to somebody that the transparent window lights were made of the same material as imitation ivory; therefore, that a cleaning cream designed primarily to clean the imitation ivory would serve the other purpose equally as well.

Such a material is now on the market. Automobile owners are advised to use it. It takes off the dirt and grease, yet does not dull or dim the transparent sheeting.

At present, the cleaning cream is on sale principally in drug and jewelry stores that sell imitation ivory goods, but since it has been discovered that the cream is so well adapted to the cleaning of automobile window lights, it is probably only a question of time when it will be found on sale in garages and in the stores of automobile accessory dealers.

PROTECTING THE EYES FROM DUST.

A motoring cap has appeared on the market having a novel feature. It is fitted with a double visor. One part is the ordinary cloth visor, under which, fitting snugly up against it, is another made of transparent sheeting—the same material, in fact, as that used in the windows of storm curtains on open type cars.

If the motorist encounters dust, he folds back the cloth visor and pulls down the transparent visor. He is able to see through this clearly and his eyes are protected from the dust and wind.

Of course, the visor is not as dust-proof as goggles, but most drivers object to wearing these because they are cumbersome and are needed only occasionally. The cap visor is more convenient, can be instantly pulled down into position for use when needed, is flexible, unbreakable and easily kept clean.

REPAIRING CRACKS IN CAST-IRON PARTS.

A crack in a cast iron pipe or cylinder jacket may be repaired in a simple, easy manner, provided that particular part does not have to ordinarily stand excessively great pressure. Dissolve some sulphate of copper in water. Clean the edges of the crack well with a file or sandpaper, then paint the edges several times with the sulphate solution until there is a coat of copper on them. After that fill the crack with soft solder, which will adhere to the soldered edges.

LOOSE FORD WHEEL SPOKES.

Loose spokes in Ford wheels may be tightened by driving a piece of galvanized iron or tin between every other spoke at the hub, forming a wedge. The metal pieces are cut to 2x1¼-inch size, the right size for Ford wheels. The cause of looseness is drying out of the wood, causing it to shrink and form openings between the spokes.

TWO KINDS OF BATTERY SULPHATION.

When a storage battery becomes more than one-third sulphated its efficiency is very low; when one-half sulphated, practically useless, because it cannot deliver enough energy to the self starter to turn over the engine and gives current only for a dim illumination in the headlights.

There are two kinds of sulphation—chemical and natural, as battery experts have discovered in the past few years. Chemical sulphation has the same appearance and the same apparent formation on the plates as natural sulphation. But chemical sulphation is much harder to remove by the charging action of the generator.

Chemical sulphation in fact takes such a firm hold on the battery plates that an automobile generator in normal service cannot remove it when charging the storage battery. The only effective way for removing the chemical sulphation is by a special process called "reforming." By this method the battery is taken off the car and re-charged three or four times before the formation can be chemically transformed. This over-charging tends to weaken the plates and put them on the scrap heap before their time.

Chemical sulphation may be reduced with the car in operation and the battery on the car by running the engine continuously for days at a speed of between 15 and 18 miles an hour. Sometimes two weeks of such running is necessary.

PROLONG LIFE OF INNER TUBES.

Many motorists allow their rims to become badly rusted. The rough particles of rust and scale act like sandpaper on the inner tube and a prematurely worn tube or blow out is the result. An occasional coat of aluminum paint when the tires are removed will act as a rust preventative and greatly prolong the life of the tubes.

The National Auto Shows

Under Auspices of National Automobile Chamber of Commerce, Inc.

January 3-10
at NEW YORK

Passenger Cars—Grand Central Palace
Motor Trucks and Highways Transport Conferences—8th Coast Artillery Armory
Take 6th or 9th Avenue "L" or Lexington Avenue Subway directly to Armory.

January 24-31
at CHICAGO

Passenger Cars—Coliseum and Armory
Motor Trucks and Highways Transport Conferences—International Amphitheatre
Take South Side "L" and change at Indiana Avenue for Halsted Street Station.

S. A. MILES, Manager **7 East 42nd Street, New York**

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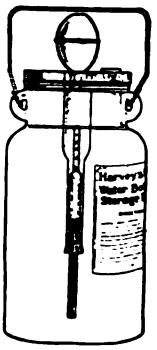


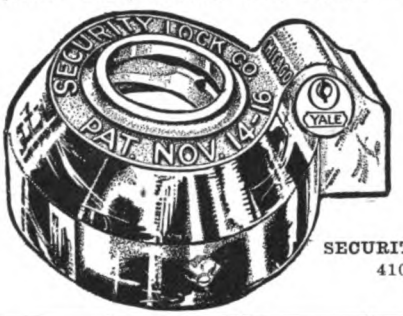
FOR YOUR BATTERY'S SAKE!

Use the Genco Battery Filler—keeps dirt, dust and grease out of your battery cells. The dial cap with MOVABLE INDICATOR records last date battery was filled and tested. RESULT—Better lights and never-failing starter. The dial is water and acid-proof and will last a lifetime. Genco Filler costs $2. Dealers and Jobbers write for full information and increase your profits. Manufactured only by

General Scientific Equipment Co.
North Philadelphia, Pa.
Hydrometer Manufacturers Since 1893.

SECURITY AUTO LOCK

The original loose wheel lock for Fords. Approved by under writers. Insurance reduced 15%. Made of solid brass. Nickel plated. Easily installed in 10 minutes. No drilling. No filing.



No sawing.

No chiseling.

Price $6.50.

Western Distributors Wanted.

SECURITY AUTO LOCK CO.
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Cameron

AIR-COOLED

Light Weight High Mileage Splendid Equipment, $2,000.

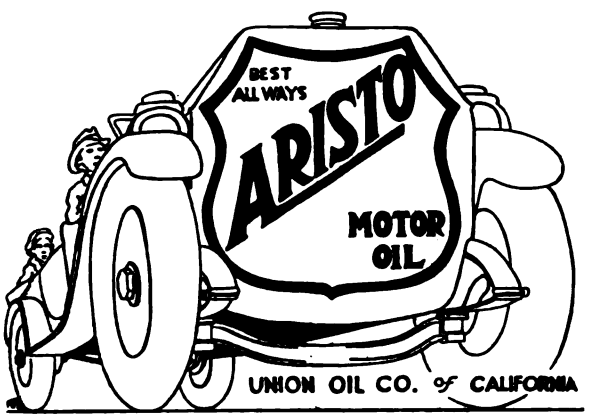
CAMERON MOTORS CORPORATION
2 COLUMBUS CIRCLE NEW YORK

MOHAWK
"Quality" TIRES

There is just one simple common-sense reason why Mohawk Tires wear so well—why 85% of all car owners who buy their first Mohawk Tire become permanent Mohawk users.

We use only the finest quality of rubber and fabric, and our standards of workmanship are, we believe, the highest of any tire company.

THE MOHAWK RUBBER COMPANY
AKRON, OHIO
NEW YORK BOSTON ATLANTA CHICAGO
KANSAS CITY DALLAS SAN FRANCISCO



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All Morelands burn Distillate

They are reliable, rugged and powerfu transportation units

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BEST FOR THE WEST

NO CARBON - MORE POWER - LESS FUEL Price 50c up

On market 5 years. Over 10,000,000 sold. Every set guaranteed. Popular thru service. Don't rebore cylinders. "NO-LEAK-O" makes good when others fail. Made different. Gives results no other ring can. Write for booklet. Order from nearest Jobber, or write direct.

We are leaders in the ring business, not followers.

NO-LEAK-O PISTON RING CO., Baltimore, Md.

PARAB-O-LIGHT
"The Lens That's Right"

Tested and Approved in California.

The lens that conserves the energy from the storage battery by producing a perfect driving light when used with bulbs of 15 to 20 C. P.

Prices: $3.25 to $4.25 per pair.

THE J. D. FRENCH COMPANY
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RATES—One time, $4.00 per inch; three times, $3.75 per inch; six times, $3.50 per inch; twelve times, $3.25 per inch; twenty-four times, $2.75 inch

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SCORED CYLINDERS

(Patented)

made perfect by the Klassen Copper-inlay process. No heating, no re-boring, no chance to crack or warp.

Our Guarantee—A new block of cylinders if any one of these inlays ever comes out. We have been repairing perfectly hundreds of wrist-pin scored cylinders at a fraction of the cost of re-boring.

Golden Welding Works
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SCORED CYLINDERS
REPAIRED BY
Lawrence Patent Process

Fused with our silver-nickel alloy. Same pistons fit. Reshipped 24 hours after received. Approved by all motor manufacturers. Guaranteed for life of motor.

Established 1862

L. LAWRENCE & CO.
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All infringers will be prosecuted to full extent of the law

REPAIRMEN, LISTEN!

Patented May 19, 1914; Dec. 15, 1914; June 20, 1916; June 26, 1917.

The Heiser Improved Cylinder Reboring Tool for FORD MOTORS is the only reboring Tool in the world that is self-sharpening. It is the only Tool except expensive grinders that will not leave the finished cylinder slightly tapered toward the bottom. It is the only Tool that rebores between centers—this insures a finished cylinder, square with the crankshaft, round, straight and true. It is adjustable, and the only Tool that will rebore different sizes without losing the adjustment. The best mechanic in the world can't build reputation without proper TOOLS and EQUIPMENT. THE HEISER IMPROVED CYLINDER REBORING TOOL makes good shops out of poor ones and better shops out of good ones. Write today for full particulars.

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TEDDY TETZLAFF SERVICE
Completely Equipped Machine Shop

Road Service Department

Especially prepared to handle any kind of Automobile Wreck or Road Trouble
OPEN DAY AND NIGHT
For Quick Service Call Main 8133

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"COP-SPOTTER" MIRROR
The Whole Road Behind in Front of You

Shows you the full width of the road behind from curb to curb through the glass in the back of the top. Can be attached to any open or enclosed car in a few minutes. Vibration proof.

Price $3.50 Why Pay More? Demand the "Cop Spotter" Price $3.50

Dealers and Jobbers--Get Our Proposition

BERGER & COMPANY
Manufacturers
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MOTORLIFE
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Saves 25% to 50% Gasoline, removes carbon, produces motor efficiency and completes lubrication.

Motorlife is guaranteed harmless to any motor, under all conditions and in any quantity.

Purchase price refunded if Motorlife does not prove satisfactory.

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KOR-KER Seals punctures.
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Makes Tires Non-Porous.
Absolutely Preserves Rubber
Not a tire filler.
Doubles life of inner tubes.
Prevents 90% of tire troubles.
Sold all over the World.
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TRANSFORMERS.

EMO TRANSFORMERS
Will Increase Power—Add Fuel Mileage—For Automobiles, Aeroplanes, Trucks, Tractors, Motorcycles, Marine and Stationary Engines

EMO TRANSFORMERS transform the ordinary slow, faint spark into a high-tension blue blaze or flame which instantly explodes all the vapors even in the lowest gravity fuel, thereby insuring greatly added power and mileage. This intensive blue-white EMO flash keeps the spark plug points free from carbon, soot and oil. Prevents "bucking" or "loping." Insures easy starting, quicker acceleration, and a sturdy, uniform flow of power at all speeds. Protects the entire ignition system. Save many times their cost in fuel and spark plug economy. One EMO on each plug makes all cylinders pull even. Can be attached by anyone.

$1.00 Each at Dealers, or sent prepaid upon receipt of price. State make of car when ordering.

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2 and 4-wheeled
AUTO WRECKERS
1454 Central Ave., Los Angeles

AUTOMOBILE MAILING LISTS.

AUTO MAILING LISTS

Send for our free complete Price List covering Auto Dealers, Owners, Ford Dealers, Truck Dealers and Owners, Garages, Auto Mfrs. and etc., any state.

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166 W. Adams St., Chicago.
Capital Invested $50,000.

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ROSE GREASE GUNS

"Rose" Grease Guns are self-loading. They fill by suction—anything from light oils to the heaviest greases. Made of steel throughout. Heavy double cup leather.

No. 1 Auto 12½x1¼"
No. 2 Truck and Tractor 19½x1½"
No. 3 Shop and Garage 24½x1½"

ROSE
Grease Guns net the Jobber and Dealer a nice profit

Over 1,000,000 ROSE TIRE PUMPS

In use in the United States. 2,000,000 more will be sold this year. *The Patent Valve is the reason.* Five years satisfactory service to the user is the past record of *The Rose Tire Pump.* All steel construction, will not jam or dent in the tool box. Equipped with the best hose that money will buy—5 ply, 3-16" inside diameter, 17-32" outside diameter.

If your dealer cannot supply you, write us

J. H. Haney & Company
Hastings, Nebraska, U.S.A.

MOTORS.

1/4 H.P. 110 volts, A.C. 60 cycle, single phase, 1750 R.P.M.

MOTORS

LARGE QUANTITIES NEW WASHING MACHINE MOTORS
These are of standard manufacture and carry the regular factory guarantee. Shipped in original boxes. Complete as cut.

Cancelled Government Contracts

Suitable for operating Coffee Grinders, Cream Separators, Bottle Washers, Air Compressors, Small Lathes, Etc.

Mail $5.00 cash or Money order. We will send C.O.D. subject to full examination. MONEY BACK GUARANTEE

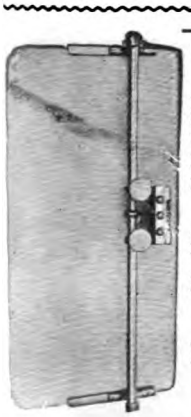
Special Quantity Prices

$19.75 EACH VALUE $25.00

MANUFACTURER'S DISTRIBUTER
CHAS. H. JOHNSTON-Dept. 4-W. E., Pittsburgh, Pa.

BARGAINS: Small Motors and Generators. Write for Catalog

WIND DEFLECTORS



SIDETRACK the WIND
Attach PACIFIC
WIND DEFLECTORS

Ride in solid comfort. Keep that draft off. You not only owe this added comfort to yourself, but to your passengers.

No Perforations in Glass
Rust-Proof Brackets
Rattle-Proof

Not a novelty, but a proven, practical necessity. Accept no substitutes, demand Pacifics.

(Name on each pair.)
Price $20.00.

Pacific Windshield Co.
814 South Olive St.
Los Angeles, Cal.
Phone M. 8122.

LATE TRADE NEWS

Maxwell-Chalmers Earn $500,000.

The Maxwell Motor Co., Inc., of Detroit, turned out 19,000 Maxwell cars in the three months of August, September and October. Added to this was the production of 1,800 Maxwell trucks and 4,000 Chalmers cars. The Chalmers Motor Car Co. is closely affiliated with the Maxwell and their net earnings ran at about $600,000 a month, after deducting income taxes but not excess profits taxes.

* * *

Prominent Names in Top Firm.

The General Top Co., of Cleveland, O., capitalized at $1,000,000, has been formed by C. R. Norton, general manager for several years of the Packard; Christian Girl, president of the Standard Parts Co., and T. E. Borton, of Borton & Borton. The company will manufacture the Art Craft top for automobiles.

SPRINGS

Cambria Spring Company
"Proven Quality"

CHROME VANADIUM AND CARBON STEEL SPRINGS

Cambria, the Unbreakable Rattle and Squeak Proof Bumper

High-Grade Second Growth Hickory Wheels
Springs, Wheels and Bumpers Repaired

Wrecking Jobs Our Specialty

Tire Racks and Platforms Applied
Forgings, Demountable Rims Applied

Main 1076—65233 916 So. Los Angeles St.
LOS ANGELES

GRUSS

Distinguishes the BEST from the REST
The *Choice* of the MAN *who* KNOWS

No Rocking or Swaying on Curves
Guaranteed 5 Years

GRUSS AIR SPRING CO.
Telephone Park 4548
179 Grove Street, Opp. City Hall, San Francisco
Branches:
Los Angeles 75 Towne Ave. | Portland, Ore. 503 Alder | Seattle, Wash. 562-1st Ave., S.

HOTELS

BEARINGS.

TRADE MARK SRB REGISTERED

BALL—ROLLER BEARINGS

STANDFORD ROLLER BEARINGS
For Ford and Chevrolet 490 Front Wheels.

J. W. WEST COMPANY
1522 S. Grand Ave., Los Angeles.
Phone 22769.

THE 4 in 1 TOOL

The indispensable wrench for all car users. It Fits the Spark Plug, Valve Cap and rim lug, as well as being a tire iron. Cannot slip off and hurt the hand.

NICKEL PLATED PRICE $1.50
Ask your dealer, or order direct from

The Four In One Mfg. Co. 949 South Los Angeles Street LOS ANGELES, CAL.

WINDSHIELD CLEANERS

RAIN-SNO
CLEAR VIEW
WINDSHIELD CLOTH
AVOID ACCIDENTS

Do not drive your car with a Rain-Blurred Windshield Over 10,000 Accidents Yearly caused by such a condition

RAIN-SNO "RED CLOTH" keeps the entire glass clear by chemical action. One application over wet windshield will give a clear driving vision which will last as long as any storm. *Be insured against accident* and secure a RAIN-SNO CLOTH today. At your dealers or by mail postpaid. **Price 50 cents**
Refuse substitutes and insist upon the Original "RED CLOTH"

Made only by SUFFOLK MANUFACTURING CO.
3168 Washington St., Boston, Mass.

PARTS.

Automobile Parts and Accessories

We carry an immense stock of parts for nearly every make and model of car ever made. No matter what part of a car you may need a part for, we can most always fill your order.

We have hundreds of cylinders, crank cases, crank shafts, axles, axle housings, hoods, radiators, bodies, frames, springs, transmissions and gears of all kinds.

Motors Motors Motors

We have a large collection of motors from 10 to 120 horsepower, which can be used for boats, tractors, trucks, pumping plants, and ditching machines; also a large stock of new accessories and gears that are at a discount of 50%. Magnetos, carburetors, generators and starters of all kinds.

Learn to rely on our service, and you will solve your parts problem. Ten years' experience in the business. All mail orders filled correctly the same day ordered. All goods guaranteed, on money-back basis.

CALIFORNIA AUTO PARTS & WRECKING COMPANY
Successors to
AUTO EXHIBIT & SUPPLY COMPANY
528 Golden Gate Avenue,
San Francisco, California.
1130 South Main Street, Los Angeles, California

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The Tire Guaranty!
WHAT IS IT?

THIS is plain, frank talk on tire guaranties.

It clears up the misunderstanding about the guaranty that misleads many a tire user and dealer.

It shows them how their rights and safety are best secured in the sale of a tire. It means more protection to the user, and a stabler business to the dealer.

Why does a user buy a *certain* tire? Nine times out of ten because he has been led to expect a *certain mileage* from it.

Therefore, it is vital that the user understands clearly what service he has a right to expect from a tire

* * *

DOES the tire guaranty make this clear between him and the dealer? What *does* it guarantee? Where does it begin, and end? Read and see.

All the leading tire manufacturers, The B. F. Goodrich Rubber Company, the same as the rest, guarantee tires with these identical words:

> "We guarantee all Pneumatic Automobile Tires bearing our name and serial number, to be free from imperfection of material and workmanship. * * * * * * Pneumatic Automobile Tires are not guaranteed to give any definite number of miles."

This guaranty means that if "in the judgment" of the manufacturer usage reveals an imperfection of material and workmanship, the manufacturer will "repair or replace it at his option," adjusting it according to his own judgment; *and it means nothing more.*

* * *

"BUT how," the tire user very properly demands, "is the adjustment of an imperfect tire made? Where does the adjustment begin?"

To such questions, the *guaranty against imperfection* makes no specific answer whatever.

But to *all* these questions, the Goodrich Adjustment makes a specific answer, open handed as Justice. It takes up a tire *where the guaranty stops*, and leaves no room for misunderstanding, or controversy, between user and dealer.

It says that a Goodrich Fabric Tire, with proper usage, will deliver *at least 6,000 miles;* and a Silvertown Cord *at least 8,000 miles.*

* * *

AN imperfect Goodrich Tire is so rare that an adjustment is an immaterial thing to the B. F. Goodrich Rubber Company; but a single imperfect tire to the individual user who gets it is too material a thing to be ignored,

Yet without an adjustment basis, clearly and definitely stated, a tire user with a claim against a tire, goes into a court where there is no law. But the Goodrich Adjustment lays down the law, fair to user and dealer—clear to both.

Thus Goodrich first *insures* the user against an imperfect tire with the guaranty; then specifies clearly *the amount of his insurance* with the Goodrich Adjustment basis—6,000 miles for Fabrics—8,000 miles for Silvertown Cords.

That takes the risk out of the sale of a Goodrich Tire, both for dealer and user. It takes the guess out of its service.

Demand Goodrich Tires of your dealer.

THE B. F. GOODRICH RUBBER COMPANY
The City of Goodrich—Akron, Ohio

Goodrich Tires
Best in the Long Run

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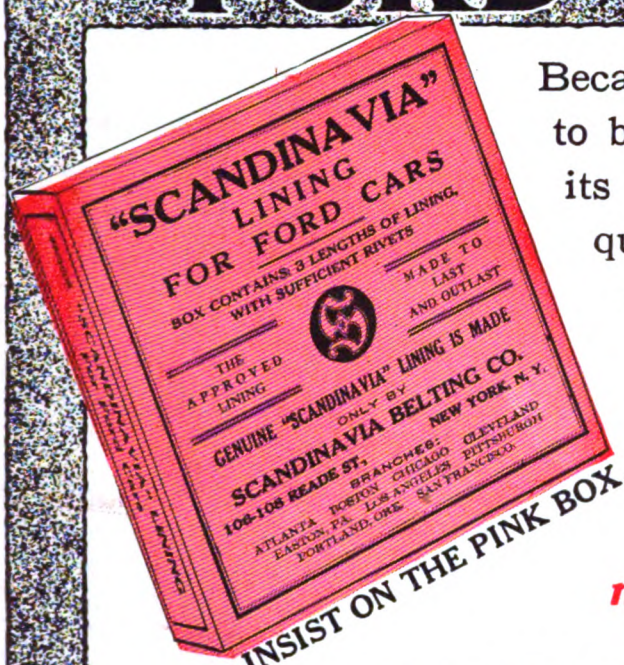
SCANDINAVIA

TRADE MARK REGISTERED IN U.S. PATENT OFFICE

BRAKE LINING for FORD CARS



INSIST ON THE PINK BOX.

Because it has proven itself to be all economy through its unusual long wearing qualities, and its satisfactory service during long usage—

Scandinavia has been the accepted lining for Fords for many years.

AS EFFICIENT AS AN AIR BRAKE—THE LINING DE LUXE FOR FORD CARS

Scandinavia is made especially for Ford use. The hot, oily condition of the Planetary Transmission cannot harm it.

It will not chatter or glaze.

It is wear proof.

It is made of the best long staple cotton interwoven into a compact fabric, especially impregnated, processed and hardened to resist heat, oil and grit.

ATTRACTIVE PROPOSITION TO JOBBER AND DEALER.

SCANDINAVIA BELTING CO., 106 READE STREET NEW YORK, N. Y

BRANCHES: Atlanta, Boston, Chicago, Cleveland, Easton, Pa., Pittsburgh. San Francisco. Los Angeles. Portland, Ore.

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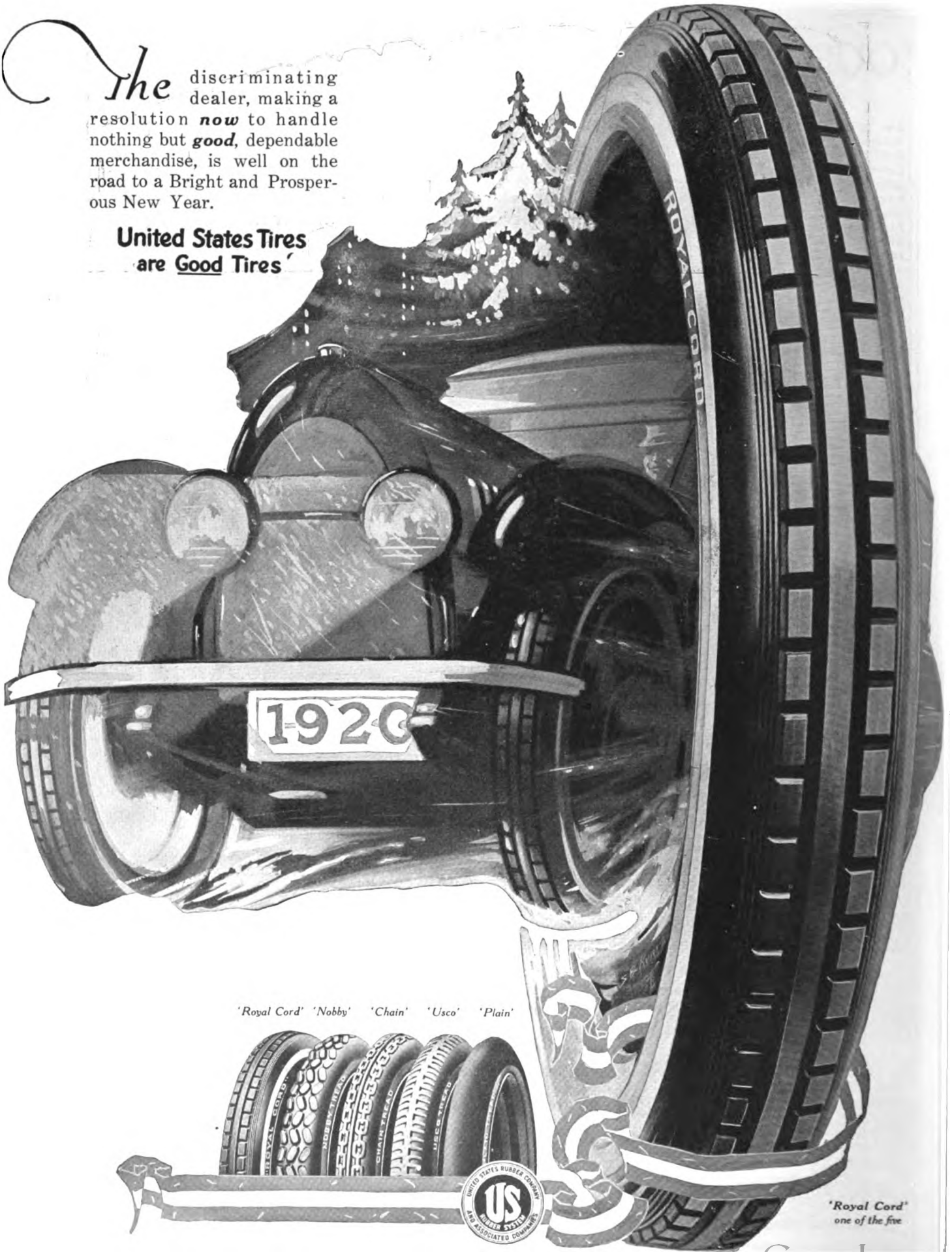
The discriminating dealer, making a resolution ***now*** to handle nothing but ***good***, dependable merchandise, is well on the road to a Bright and Prosperous New Year.

United States Tires are Good Tires



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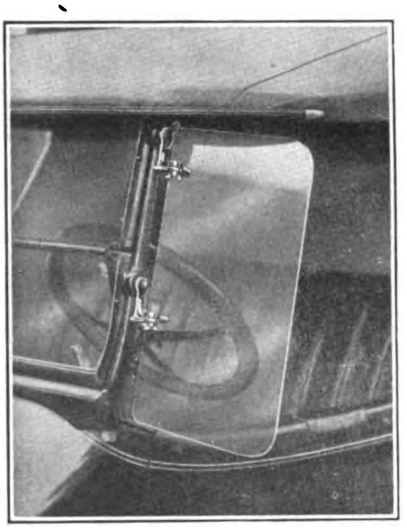
Motor West is published on the 1st and 15th of each month. Publication office, 911 Marsh-Strong Bldg., Los Angeles, Cal. Entered as second-class matter July 10, 1914, at the postoffice at Los Angeles, Cal., under the Act of March 3, 1879. Entered as Motor West and California Motor August 28, 1907.

—actually new!



Wind Deflectors

equipped with

Ultra Glass

Ultra Glass is that new, practically indestructable glass—the sensation of the year! It can't shatter or fly even when smashed—can't cut or injure anyone—no more terrible broken glass injuries in accidents.

And now you can have Deflectors equipped with Ultra Glass!

The Western Agencies Co's

"UNIVERSAL" DEFLECTOR

—Uses a wedge grip bracket fixture that is simpler, stronger, more practical than any other. —No holes in glass—no end hangers—adjustable to any angle—instantly attachable to any car—folds out of the way of storm curtains—fixture of solid brass, heavily nickled.

Use Ultra Glass for windshields too!

Body builders—get information and prices.

DEALERS—Write us—mention your jobbers name.

Western Agencies Company

Coast Distributors for Ultra Glass

285 Minna Street San Francisco

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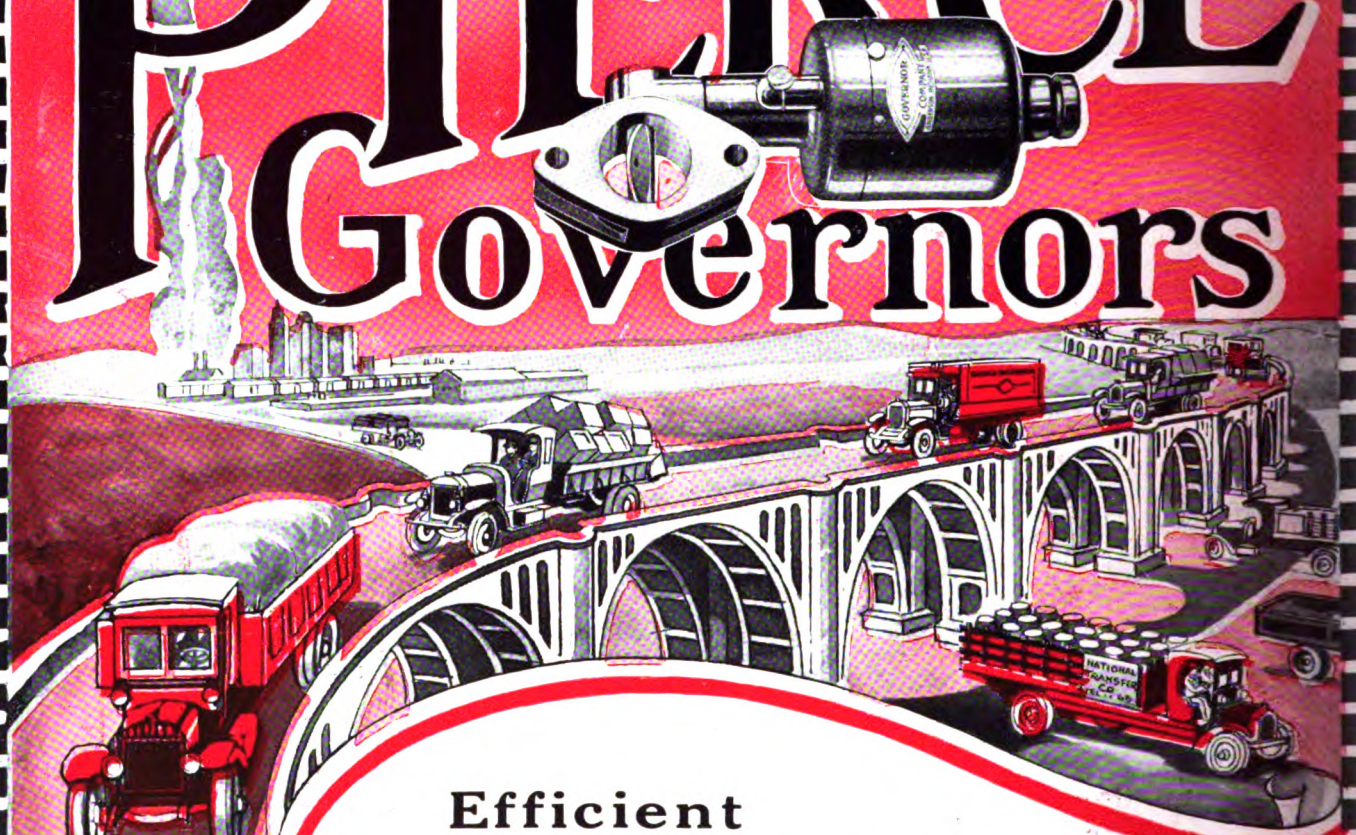
PIERCE Governors



Efficient Highway Transportation

With motor trucks rapidly becoming one of the biggest factors of transportation, it is imperative that they be built for long life and efficient service.

Nothing will pile up repair and upkeep costs more rapidly than driving trucks at excessive speeds. The tremendous vibration is destructive to every part of the truck mechanism.

Trucks in the repair shop are not performing their function and transportation is delayed—yet they are costing more than trucks in constant service. Trucks frequently laid up for repairs are unsatisfactory and unprofitable.

That's why ninety-nine far-sighted truck manufacturers prefer to guarantee the satisfactory performance of their trucks and have made Pierce Governors standard equipment, so that fast and reckless driving will be impossible.

The Pierce Governor Company

ANDERSON, INDIANA

"World's Largest Governor Builders"

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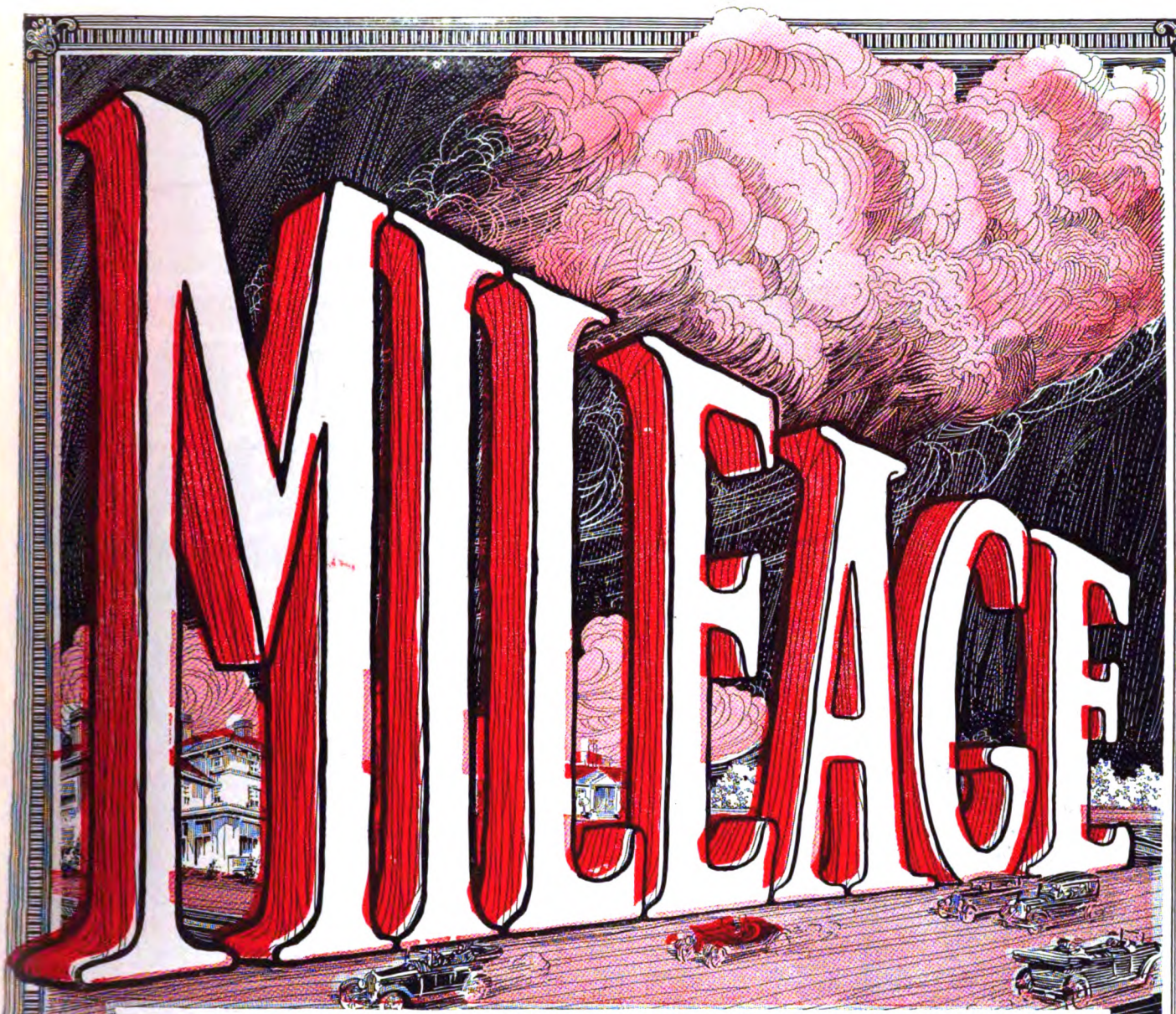

STANWOOD
Cord Tires

STANWOOD Cord Tires are specifically designed to yield uninterrupted MILEAGE—with capital letters. Every process in STANWOOD manufacture is co-ordinated towards one end, *the production of "the supreme long distance tire."*

Our production policy enables us to assure Distributors of a plentiful supply of Cord Tires in popular sizes throughout all seasons.

We have devised an attractive jobbing proposition for high-class Distributors. Terms on application.

STANWOOD RUBBER COMPANY
Executive Offices: 9 East Fortieth Street, New York City

Chicago Branch: 1712 So. Michigan Avenue
Factories: Elizabeth, N. J.

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FISK CORD TIRES

Time to Re-tire?
(Buy Fisk)

To the dealer who is investigating

Where investigation precedes buying, in nine cases out of ten, we gain a new Fisk Dealer.

Comparisons alone will sell Fisk Tires—so will records of Fisk mileage. The tires are bigger, better looking, better made. There is one for **every** need—no gaps, no fill-ins—the line and the policy are strong and clean cut.

Our dealer proposition is attractive—a square deal, prices right, and a strong well advertised line.

For years the **ideal** of the Fisk Rubber Company has been to be "the best concern in the world to work for and the squarest concern in existence to do business with."

Sold direct to Dealers and Manufacturers

There is a Fisk Branch within 24 hours of all dealers.

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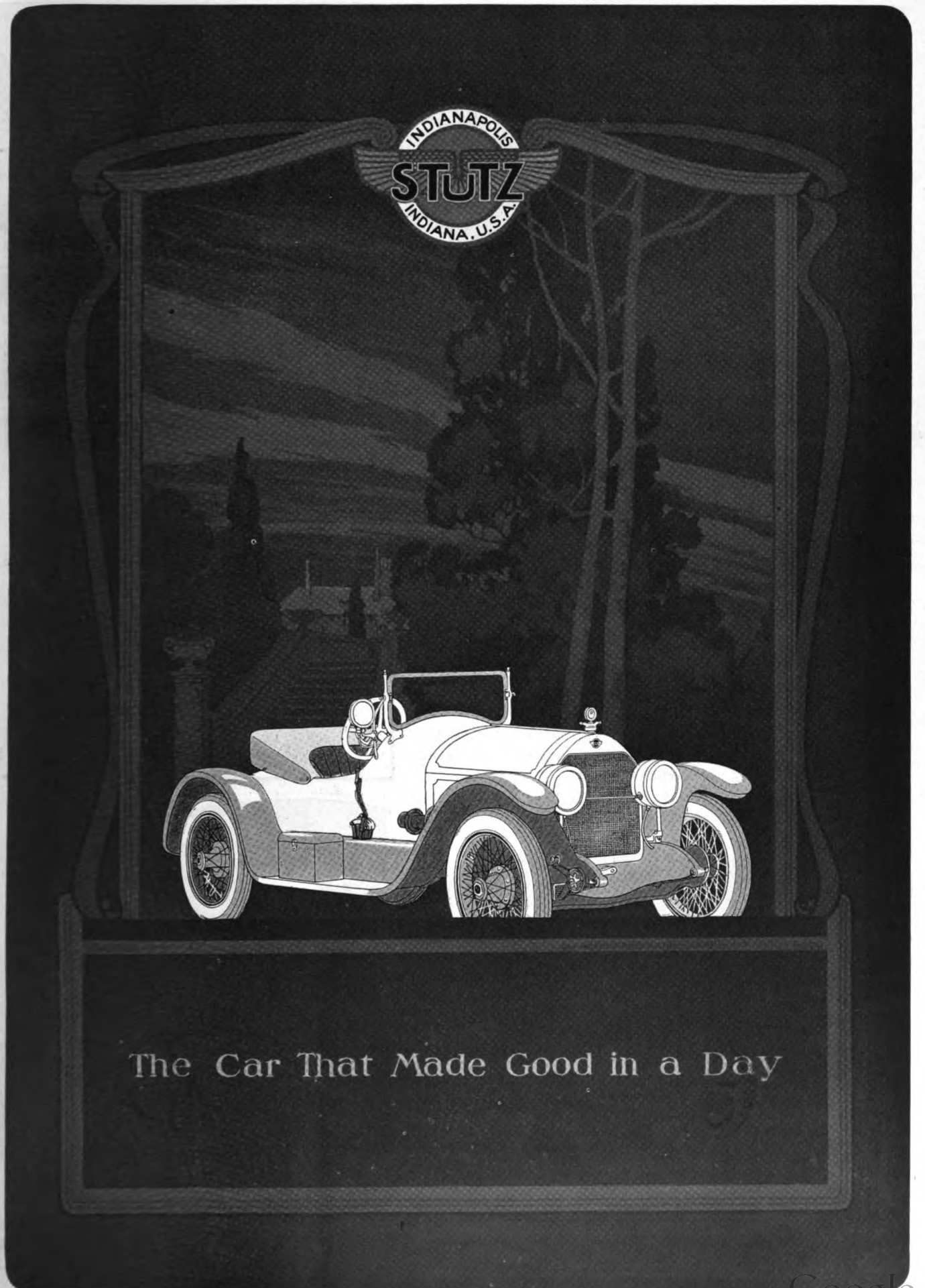

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The high point

Ace

Completely Equipped

We will exhibit at
8th Coast Artillery Armory, NEW YORK
Section D, No. 3

International Ampi heater, CHICAGO
Section G, No. 6

Specifications

Modine-Spirex Sectional Radiator	Ross Steering Gear
Timken-Detroit Front Axle	Spicer Universal Joints
Buda Motor	Timken-David Brown Worm Drive Rear Axle with Hotchkiss Drive
Atwater Kent Distributor	Mather Springs
Brown-Lipe Multiple Dry Disc Clutch	Parish & Bingham Frame
Brown-Lipe Transmission	Dayton Cast Steel Wheels
Brown-Lipe Control	Firestone Tires

Standard Special Equipment

Steel Channel Bumper	Special device to make Headlights track automatically with front Wheels
All-Weather Cab	Exide Battery
Westinghouse Self-Starter	Klaxon Horn
Westinghouse Generator	Pierce Governor
Westinghouse Electric Lights with Dimmers	Veeder Odometer
	Fully Painted

1½-2 Ton, $2800

2½-3 Ton, $3500

Ace

The AMERICAN MOTOR TRUCK COMPANY
NEWARK OHIO.

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of attainment

Watch the Ace Lead the Line of Completely Equipped Trucks

What's the use of making a new Truck unless it is made better than old ones?

That was our question several years ago, already answered by our conviction that a new truck, a better Truck, a completely finished Truck, was a real need in the Traffic World.

The war was on when we set out to make the new Ace Truck.

The war delayed our actual announcement of Ace Trucks, but it didn't delay our research and experimental work. That went on.

It leaked out and other manufacturers took up the idea. But what we wanted more than anything else was certainty of engineering, certainty of performance and certainty of economical operation.

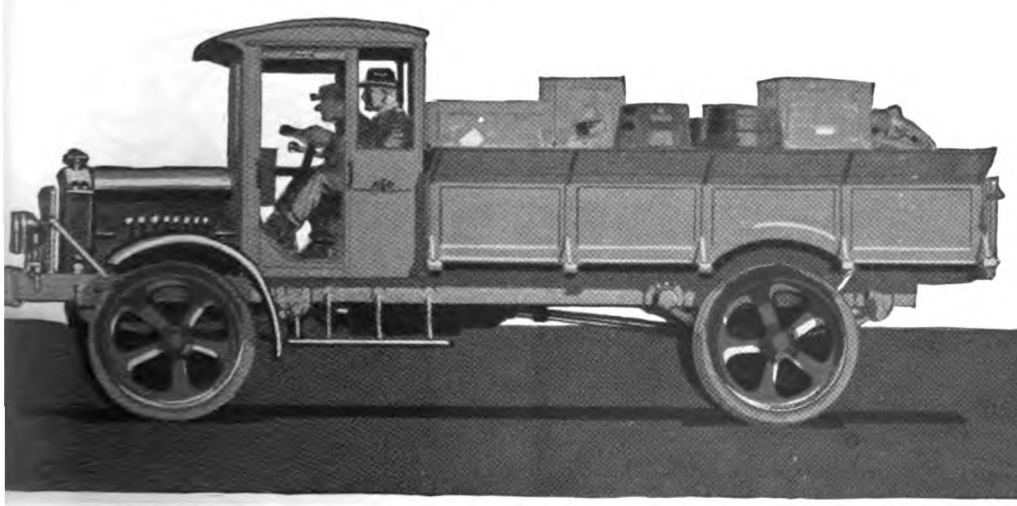
We Spent our Own Money to Save Dealers and Users from Paying for our Errors.

Ace Trucks are thoroughly proved, thoroughly clean, thoroughly complete and ahead of the average Motor Truck ideal.

Ace selling plans are as far ahead of the average hit or miss selling plans as the Motor Truck is ahead of horse haulage.

Ace quality, Ace reputation, Ace integrity of method in manufacturing, selling and advertising, are transferred to the Dealer for his benefit the moment a territory is assigned.

Sell a Complete Truck—not a Fraction
Sell an Asset—not a Liability
Sell Ace Motor Trucks and Build a Business



Ace MOTOR TRUCKS
1½ TON 2½ TON

THE AMERICAN MOTOR TRUCK COMPANY, Newark, Ohio

Now I'm ready to talk Ace Contract

Name _____

No. _____ Street _____ City _____ State _____ M W.-1-1

Please Mention "Motor West" When Writing to the Advertiser

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A Tube to Support a Tire Business

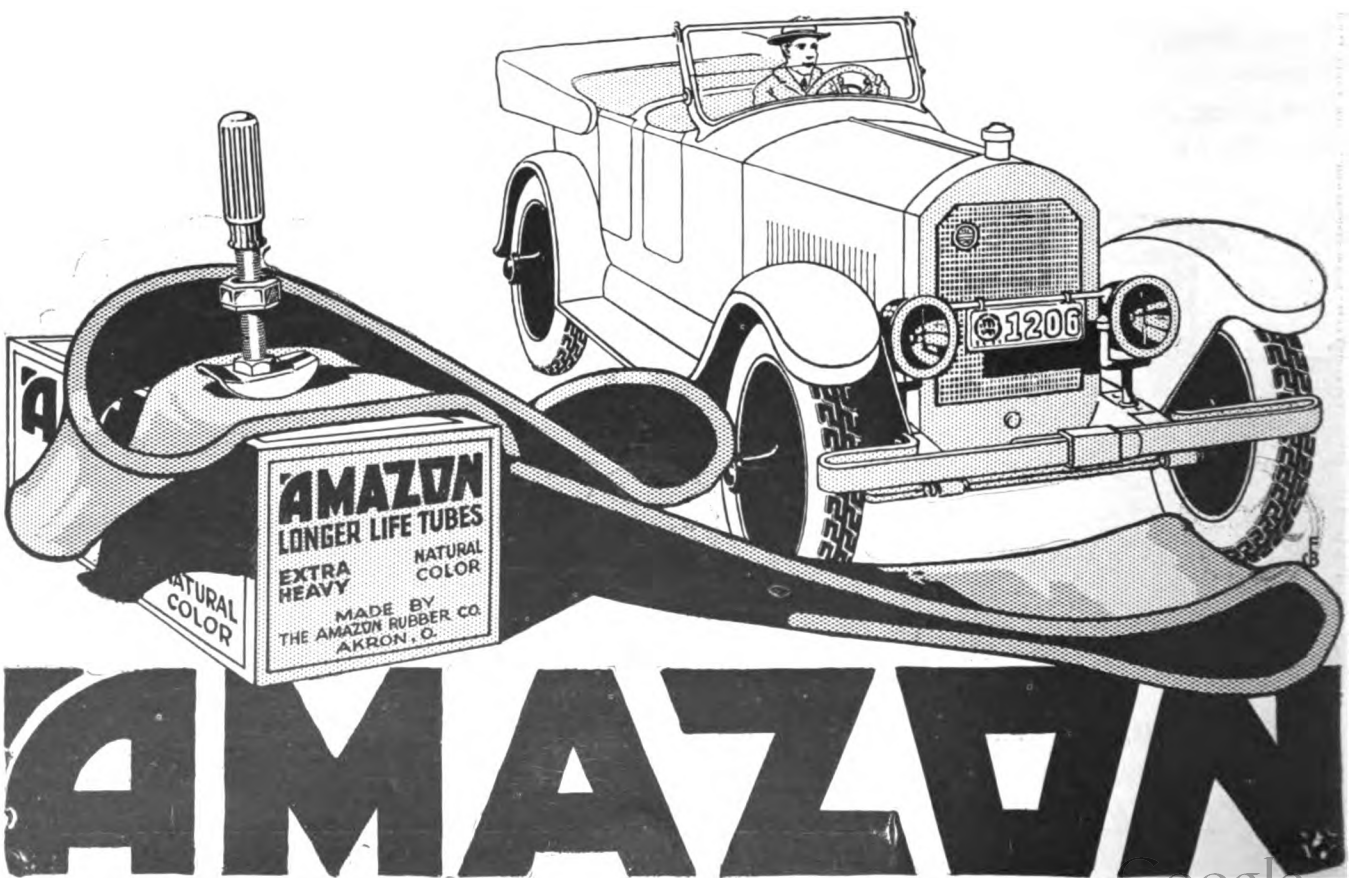
Amazon red and gray tubes are fit running mates for Amazon tires. They run thousands of miles beyond all expectations. They give an assured mileage that satisfies your trade on the service you give. Sell Amazon tubes with the same assurance that you sell Amazon tires, both will do all that you claim for them.

Amazon tires and tubes are sold throughout the nation. If they are not on sale in your town write for the Amazon agency proposition. It contains four profits in addition to the profits offered on ordinary tires.

Write for Amazon Helps. It tells **how.**

The Amazon Rubber Company

1800 E. Market St. **Akron, Ohio**



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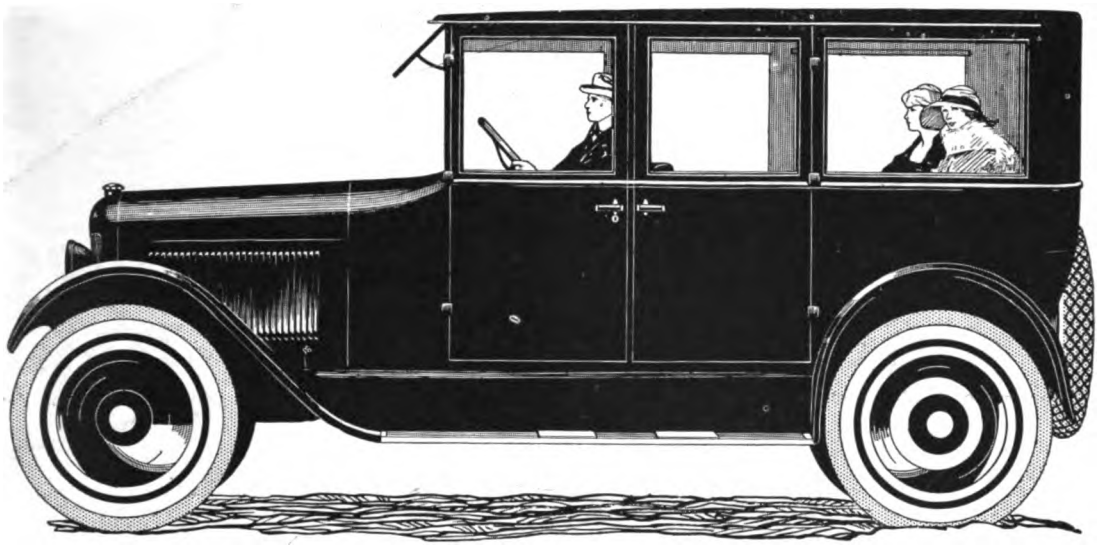

The Luxurious Elgin Six Sedan

Makes Winter Driving Comfortable

Preference, without regard to price, induces people to buy the new Elgin Sedan—just as it has always affected their choice of the World's Champion Light Six.

A preference evoked by intelligent appraisal of motor car value—appearance, serviceability and comfort—and by liberal comparisons.

The more one knows about automobiles in general, the higher the Elgin Six ranks in his estimation. This is particularly true, at this time, of the new Elgin Sedan.

Partly because it is built upon the standard World's Champion Light Six chassis—and partly because it has been built so handsomely, and with such sincere regard for comfort and convenience—is the Elgin Sedan enjoying such remarkable popularity.

The beautiful Elgin Six portfolio, illustrating all models, will be mailed upon request.

Pacific Coast Distributors

Pacific Motors, Incorporated :: Seattle and San Francisco

901 Securities Building, Seattle, Washington 430 Phelan Building, San Francisco, Cal.

ELGIN MOTOR CAR CORPORATION ARGO, ILLINOIS.

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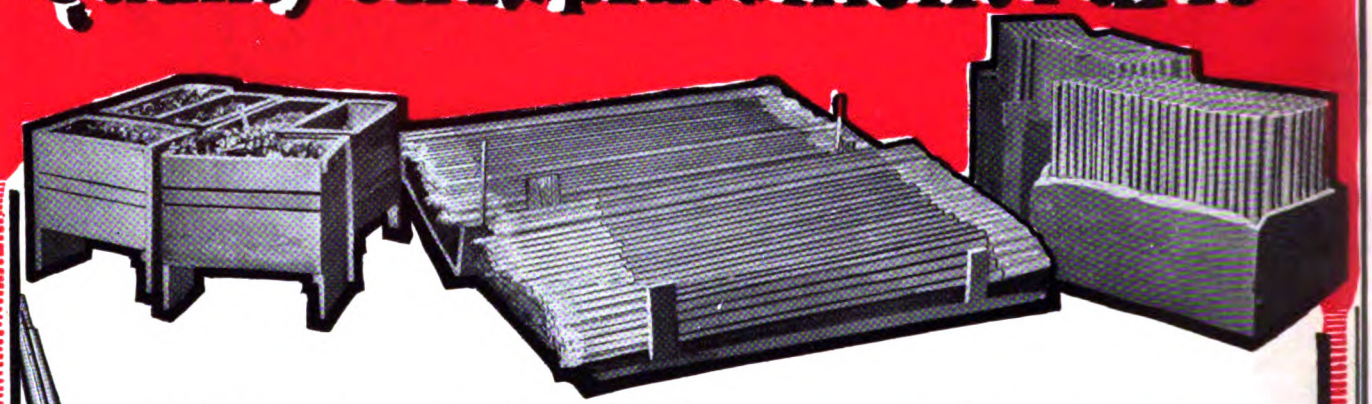
SPENCER

The Name That Guarantees Quality On Replacement Parts



YOU dealers who handle replacement parts have got to stand back of those parts or lose your reputation for service.

That's why you will appreciate Spencer Guaranteed Replacement Parts—machined with care and accuracy from the best of material and stamped with the name *"Spencer"* as a guarantee of quality.

The present modern, finely equipped, Spencer factory is the development of the firm belief that Quality pays Dividends.

When you sell any Spencer guaranteed product, you can be absolutely certain that it is the equal of the original part in every respect and will give entire and lasting satisfaction.

Spencer Guaranteed Parts are sold only through jobbers—stamped with the *"Spencer"* trademark—made in sufficient quantities to insure prompt delivery at all times—*Unconditionally Guaranteed.*

Spencer Guaranteed Products include:

Axle shafts and drive shafts for all popular makes of cars.
Connecting rods, radius rods, fans and mufflers for Fords.
Gilliam take-down taper roller bearings for light cars and commercial trucks.

Spencer Quality Costs You no More

THE SPENCER METAL PRODUCTS CO.
624 S. Michigan Avenue, Chicago
and 16 to 24 West 61st St., New York

THE SPENCER METAL PRODUCTS CO. SPENCER SPENCER, OHIO.

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"Horse Sense"

It is estimated that the crops of 125,000,000 acres of land are required annually to feed horses. If wheat were raised on this land, its value would be sufficient to pay the National debt and Liberty Bond issue.

Motor trucks have made it possible for farmers to reach markets that are better than the one nearest to them.

Time is man's greatest asset—the more time saved, the more money made—dealers and users know the Traffic does both.

Just as the old stage-coach compares with the modern train for traveling, wagons and teams compare with the Traffic Truck for hauling.

The Traffic is the lowest priced 4,000-lb. capacity truck in the world. Built of standardized units.

Traffic Specifications

Red Seal Continental 3¾ x 5 motor; ***Covert transmission;*** multiple disc clutch: ***Bosch magneto; Carter carburetor;*** 4-piece cast shell, cellular type radiator; drop forged front axle with ***Timken roller bearings; Russel rear axle,*** internal gear, roller bearings; semi-elliptic front and rear springs; ***6-inch U-channel frame; Standard Fisk tires, 34x3½ front, 34x5 rear; 133-inch wheelbase; 122-inch length of frame behind driver's seat;*** oil cup lubricating system; chassis painted, striped and varnished; driver's lazy-back seat and cushion regular equipment. Pneumatic cord tire equipment at extra cost.

Chassis $1395 *Factory*

Notice to Dealers

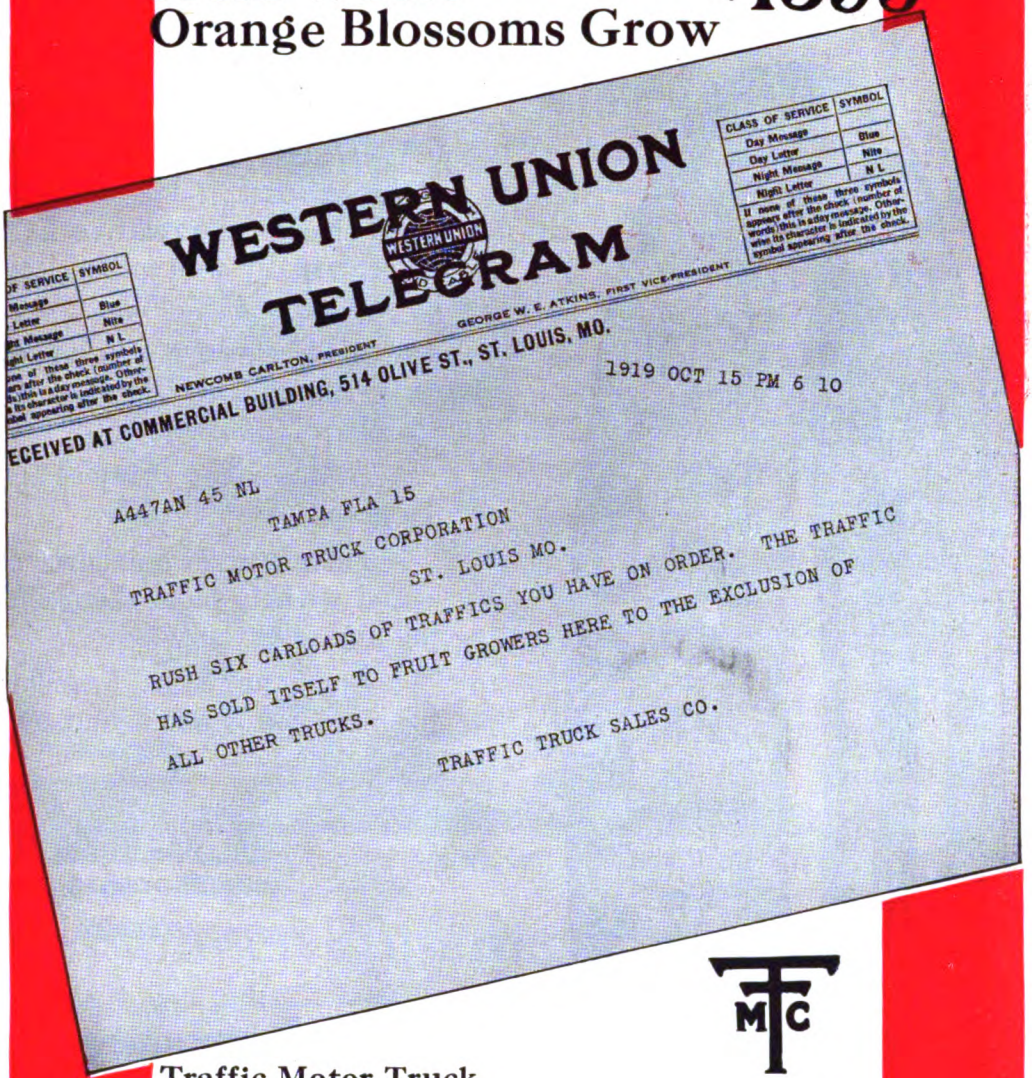
It is Traffic policy to make direct connections in every city, town and village throughout the United States Wire for territory you want and if open come to the factory and see the Traffic produced and perform.

Traffic Truck

4,000 LBS. CAPACITY

From Where Orange Blossoms Grow

$1395



WESTERN UNION TELEGRAM

NEWCOMB CARLTON, PRESIDENT — GEORGE W. E. ATKINS, FIRST VICE-PRESIDENT

RECEIVED AT COMMERCIAL BUILDING, 514 OLIVE ST., ST. LOUIS, MO.

1919 OCT 15 PM 6 10

A447AN 45 NL

TAMPA FLA 15

TRAFFIC MOTOR TRUCK CORPORATION

ST. LOUIS MO.

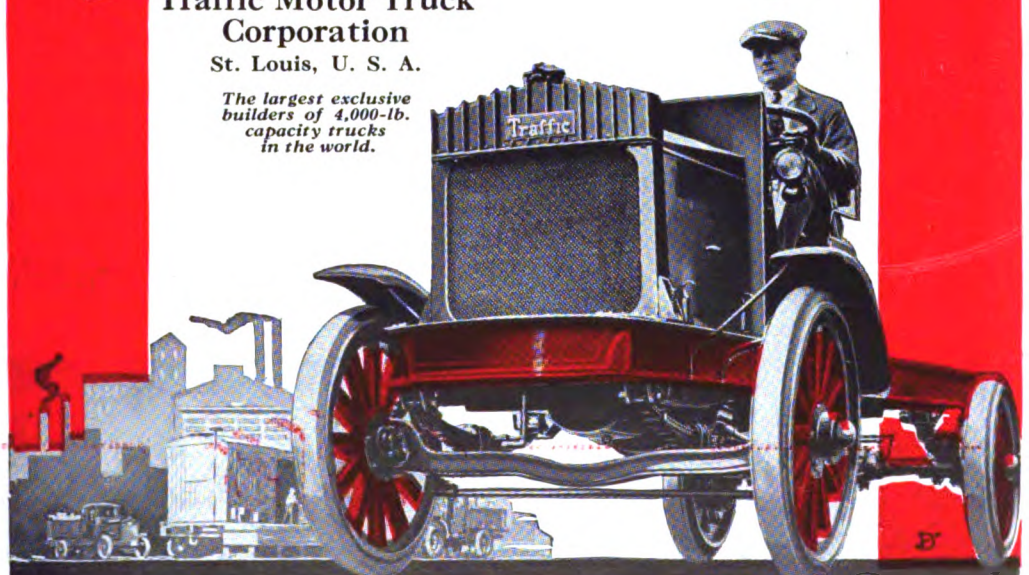
RUSH SIX CARLOADS OF TRAFFICS YOU HAVE ON ORDER. THE TRAFFIC HAS SOLD ITSELF TO FRUIT GROWERS HERE TO THE EXCLUSION OF ALL OTHER TRUCKS.

TRAFFIC TRUCK SALES CO.

Traffic Motor Truck Corporation

St. Louis, U. S. A.

The largest exclusive builders of 4,000-lb. capacity trucks in the world.



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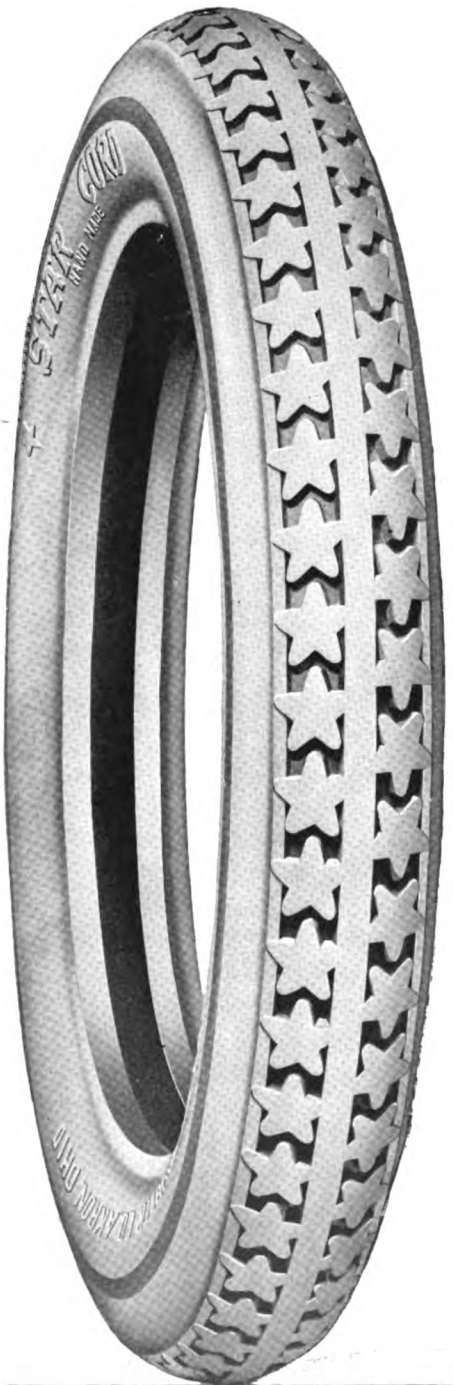
Not Cheap Tires —But Cheap MILEAGE



Even if some car owners *do* ask for low priced tires, hoping to get cheap mileage from them, experience finally convinces them that it can't be done.

—at least, it does when they have an opportunity of comparing the relative **COST** of "standard tires" and unusually well made tires like Stars.

Have them try one Star Tire. And when they find that it outlasts several average tires—and practically eliminates ordinary road trouble—it means "Stars all around."

That is what many of the Dealers who sell Star Tires tell us.

Their Star Tire departments are very profitable —and we help build them with time proved advertising and sales helps.

And the Star Franchise is exclusive — the business you build is your own. Shall we send you the details?

THE STAR RUBBER COMPANY
AKRON'S MASTER TIRE BUILDERS
1074 CROZIER ST.:: AKRON, OHIO

Waterhouse & Lester Co.

California Distributors

Los Angeles
325-345 North Los Angeles St.

Portland, Oregon
Fifth Street at Davis

San Francisco, 540 Howard Street

Seattle

The Whiton Hardware Company

STAR CORD TIRES

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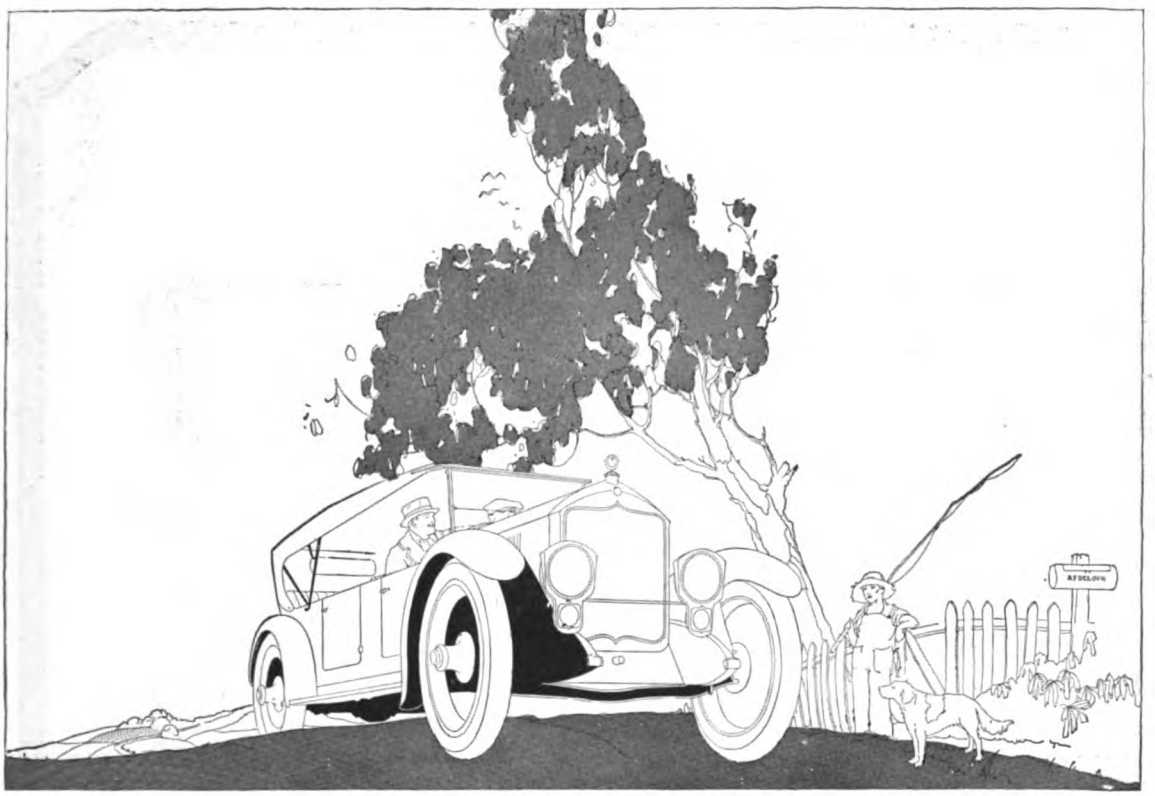
National

THE NATIONAL SEXTET IS BUILT IN FIVE CUSTOM BODY STYLES



THE NATIONAL SEXTET SEVEN-PASSENGER TOURING CAR

The Show Pioneer Presents The Sextet

Twenty years ago, the first National made its appearance at the first American automobile show.

In the Grand Central Palace, New York, and in the Coliseum, Chicago, we now formally present the new National Sextet.

At the shows of intervening years, the National exhibit has ever foreshadowed the trend of engine, chassis and body design.

Notable engineering precedents were established by the National Four in 1904, the National Six in 1906, and the National Twelve of 1916.

And now the new National Sextet is receiving the same merited recognition from the automotive industry and the motoring public as was accorded these earlier models.

For in the National Sextet bodies, National designers have achieved an unduplicated lowness and the smartly continental style that characterize the finest of European cars.

And the engine of the National Sextet marks a distinct advance in the science of six-cylinder construction.

NATIONAL MOTOR CAR & VEHICLE CORPORATION, INDIANAPOLIS

Twentieth Successful Year

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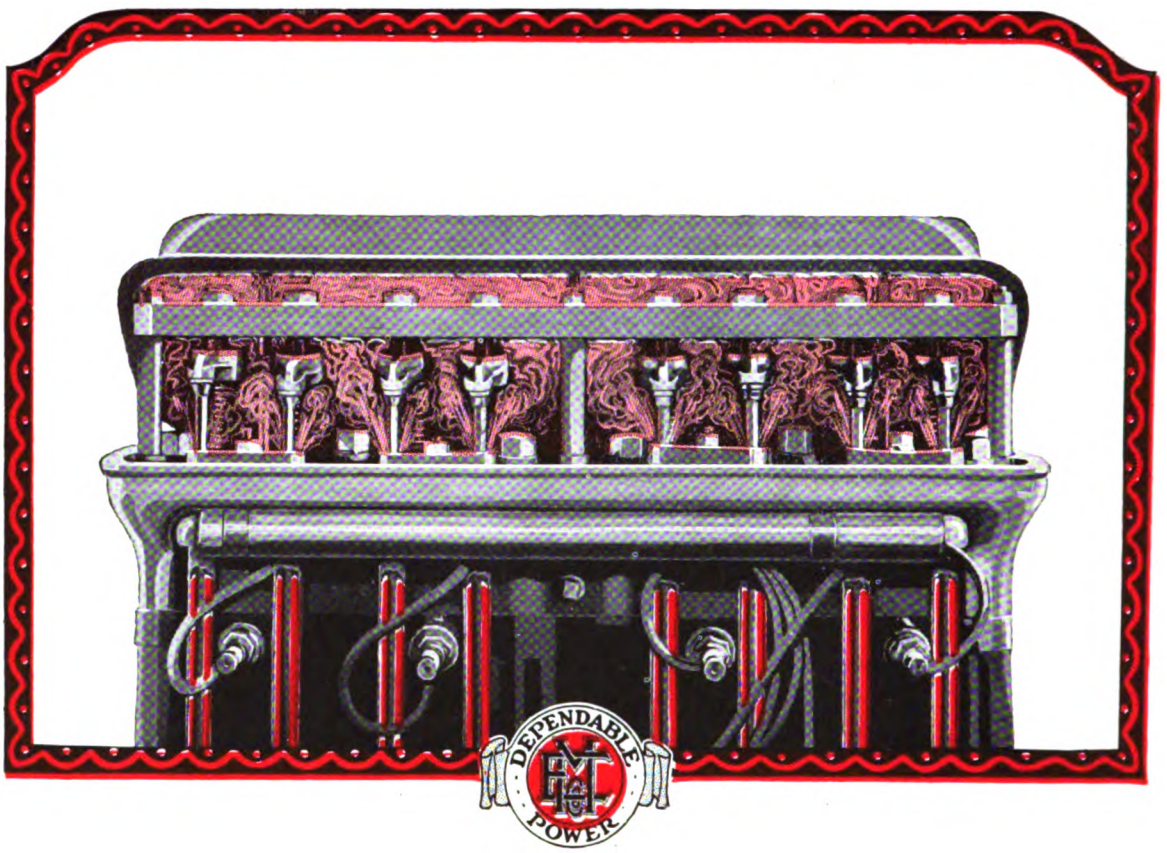
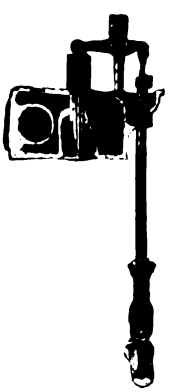
MIDWEST

TRUCK *and* TRACTOR ENGINE



This Midwest Engine is unique in that it belongs essentially to these new, high speed times. It is built to pull a heavy truck *loaded to capacity*—at comparatively high engine speed; whereas, until now, practically all truck engines have been designed for slow speed—and have been, as a rule, unfitted for the incessant torture of high speed made possible by the almost general adoption of pneumatic tires—on trucks.

Above is shown only one of the Midwest precautionary and protective features. Note how a fog of lubricant (arbitrarily indicated by red) is drawn up the eight tubes surrounding the push rods. The rocker arms and valve mechanism are constantly bathed in this oil mist, thereby reducing friction and wear to the minimum. Bear in mind, too, that all this is merely a part of an automatic internal "breathing" operation—no gritty outside air can possibly enter this motor—meaning *no cutting out of bearings*.



There are other distinctive and gratifying features in this Midwest engine, over which any sincere engineering student will become enthusiastic. May we send you the full facts?

Address, Sales Division 17

Midwest Engine Co.

Indianapolis, U.S.A.

Dependable Power

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THE success of each Nash Dealer is of such vital interest to the Nash factory that every factory policy is formulated with the idea of insuring him a profitable and steadily increasing business. Nash distributors also appreciate the fact that their success depends solely on a "square deal" policy toward the dealer and are eager to help him in every way possible.

Nash Passenger Cars

5-Passenger Car, $1490 2-Passenger Roadster, $1490 Sedan, $2575
4-Passenger Coupe, $2350 7-Passenger Car, $1640
4-Passenger Sport Model, $1595

Nash Trucks

One-Ton Chassis, $1650 Two-Ton Chassis, $2250
Nash Quad Chassis, $3250
Prices F. O. B. Kenosha

The Nash Motors Co., Kenosha, Wis.
Manufacturers of Passenger Cars and Trucks
Including the Famous Nash Quad

NASH MOTORS

VALUE CARS AT VOLUME PRICES

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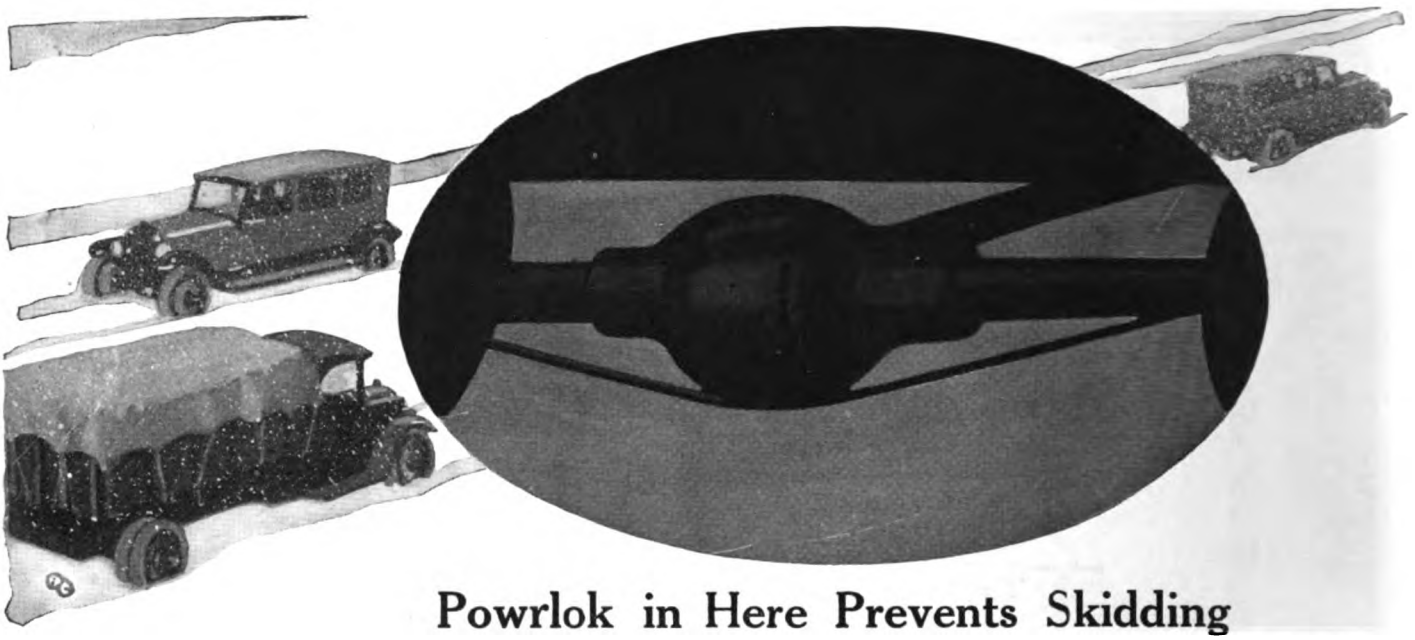

Powrlok in Here Prevents Skidding and Stops Stalling

AFTER five years of actual service in thousands of trucks, passenger cars, tractors and industrial trucks under every conceivable sort of service, Powrlok is today admitted by practically all the leading axle manufacturers to be the most perfect form of differential construction yet devised.

The Powrlok differential, besides performing the same functions as the ordinary differential, has the marked advantage of reversing the action of the ordinary differential when the traction on the rear wheels is unequal.

Powrlok automatically transmits the power to the rear wheel in direct proportion to the traction or hold, which the wheels have on the road, thus applying the power where it is needed to pull the load instead of wasting it in useless wheel-spinning and tire wear. This proper apportioning of the power to the rear wheels stops skidding almost entirely.

Fifty leading manufacturers of the four classes of automotive vehicles use it now. All will eventually. It will pay you to investigate now.

Our new book, "More Than A Differential," explains it in detail. It's yours for the asking.

We shall exhibit at the New York and Chicago Shows.

THE POWRLOK COMPANY

1107 East 152nd Street, CLEVELAND, OHIO

THE CANADIAN POWRLOK COMPANY, WALKERVILLE, ONTARIO

POWRLOK

More than a Differential

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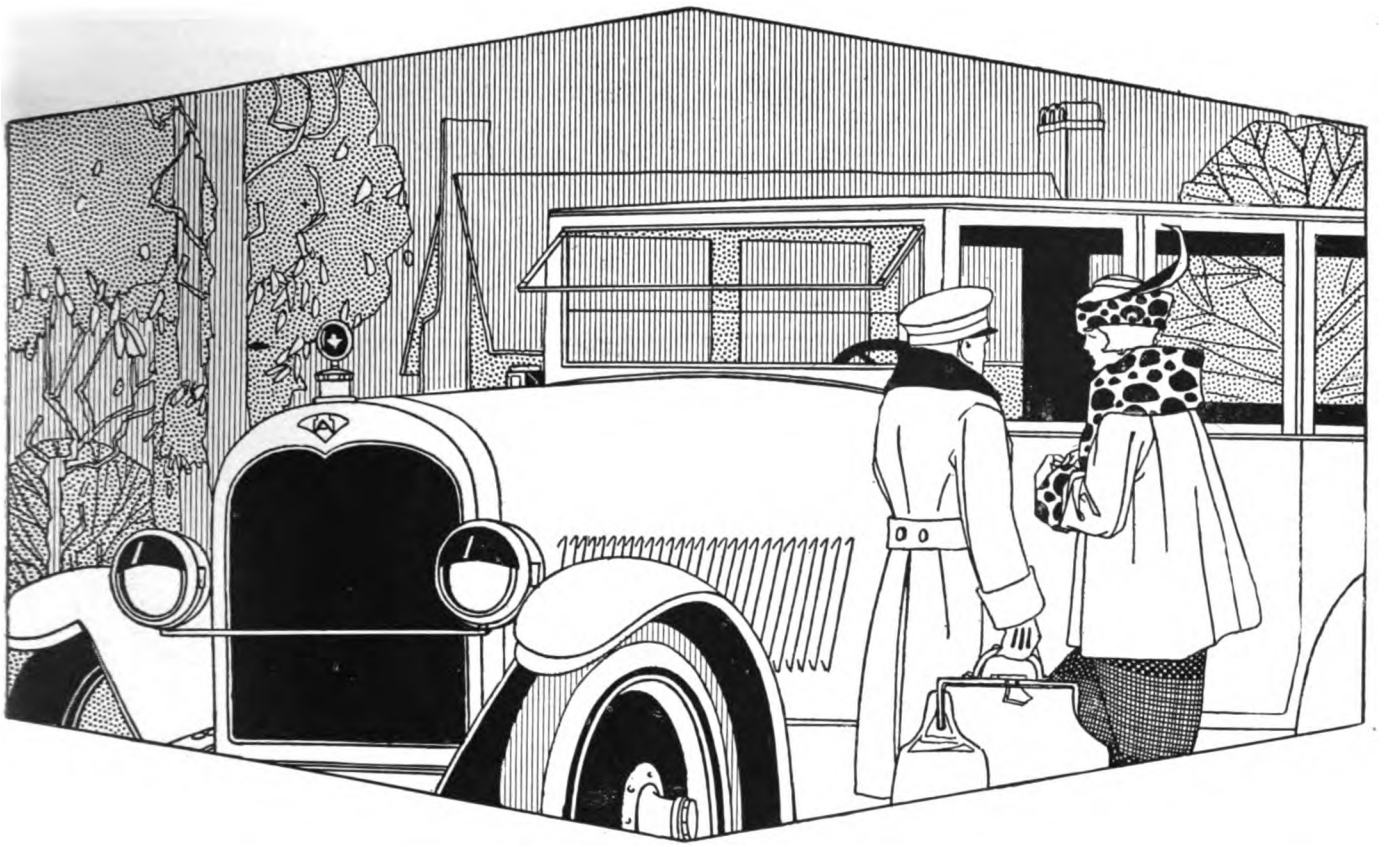

The Smile Car At The Shows

When the cover of this newest AMERICAN Balanced Six is lifted, there will be brought to view the car that is destined to make the possessors of its franchises during 1920 a lot of happy and mighty prosperous motor merchants.

Big as was its success in 1919, it is only a foretaste of the spectacular success that will follow in 1920, under the impetus of the existing large demand and the additional flow of business which our intensive national advertising campaign will accelerate.

The "new" feature about the Smile Car is distinguished by something more than a touch of the novel here and there. It is something more fundamental than any mere touch that a new refinement could give it.

It goes beneath the paint and under the body. It concerns itself with that most vital of all features of a motor car—**its design.**

In this new AMERICAN Balanced Six, we present a car of light weight, the load of which is so evenly distributed over each of the four wheels that it varies at best but a fraction of a pound one way or the other!

Viewing the car as it stands complete, is a **treat** in itself. But to **ride** in it is a **revelation!** You instantly sense selling possibilities for this car that loom bigger and bigger the more you think about it.

TOURING CARS ROADSTERS SEDANS 45 HORSEPOWER 122-INCH WHEELBASE

AMERICAN MOTORS CORPORATION

Factory: PLAINFIELD, NEW JERSEY

AMERICAN

The Balanced Six

MILES OF SMILES

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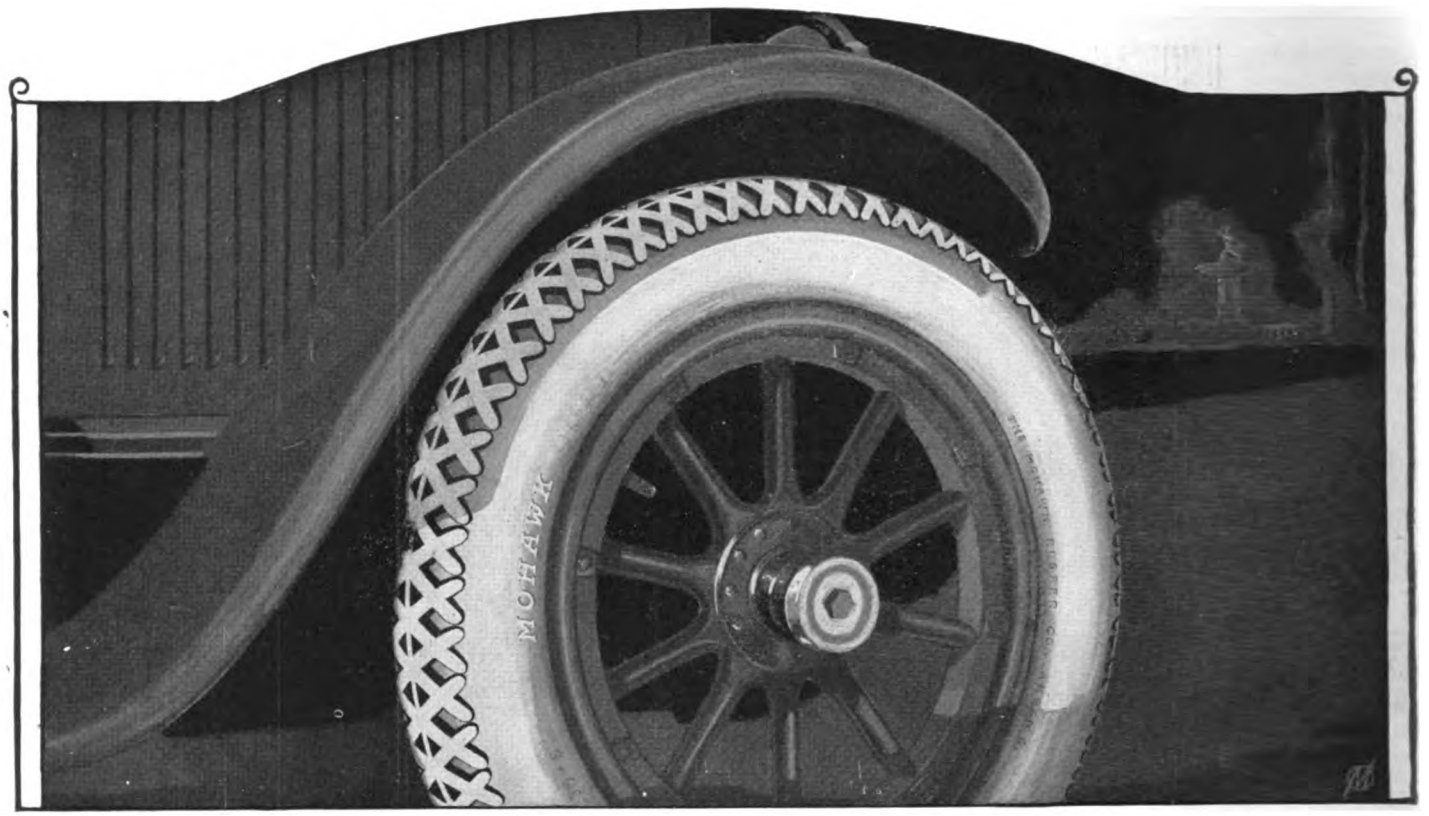

Mohawks Make Permanent Friends

To find a tire so consistently good that is worth sticking to year after year is a valuable find for either a dealer or car owner.

It saves hundreds of dollars and countless hours of trouble and worry.

Rarely do we find anyone who switches to another make after once using Mohawk "Quality" Tires.

This is because they are sensible, honestly built tires, containing only the finest materials — pure rubber, without an ounce of shoddy, reclaimed rubber, or fillers, The fabric is 17¼ ounce Sea Island Cotton. In most sizes, you will find an extra ply. Hand-built by workmen who are the pick of the tire industry and who work under ideal conditions.

These things expressed in terms of high mileage and trouble-free service account for the fact that Mohawk dealers report that eighty-five per cent of those who buy Mohawk Tires for the first time continue to use them exclusively.

Cord or Fabric Tires—Ribbed or Non-Skid Treads. Also a Ford Size. Hand-Made, with an extra Ply of Fabric, too

MOHAWK RUBBER COMPANY, AKRON, OHIO

DISTRIBUTORS

JENSEN-KING-BYRD Co.,
320-324 Riverside Avenue,
Spokane, Washington.

MUNNELL & SHERRILL,
40 First Street,
Portland, Oregon.

RUBBER SERVICE CO.,
1023 E. Pike Street,
Seattle, Washington.

MOHAWK "Quality" TIRES
HAND MADE

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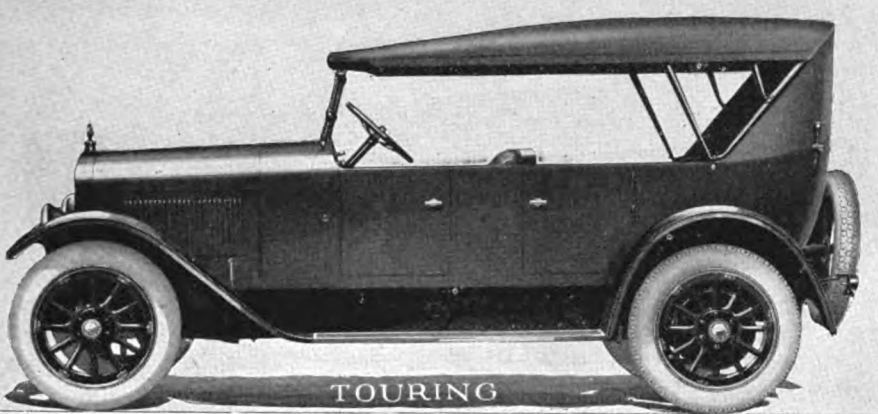
Announcement 1920

KING

MODEL H

in four body types

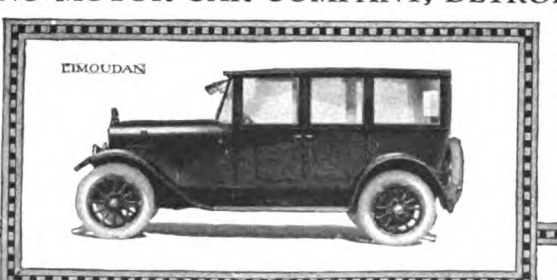


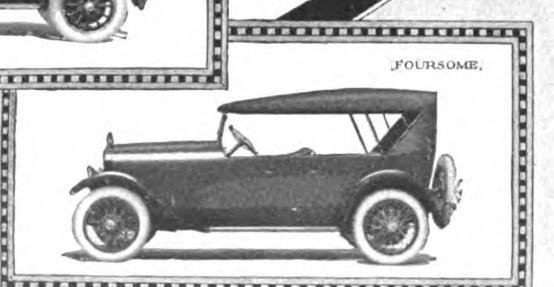
RETAINING all the mechanical excellence which has gained this pioneer Eight a world reputation for reliability, the King 1920 production offers more than one hundred distinct points of refinement in chassis and body. The new models will be exhibited in January at the Automobile Shows and by King distributors. Orders should be placed early.

KING MOTOR CAR COMPANY, DETROIT

"THE CAR OF NO REGRETS"

SIXTY HORSE POWER





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(Formerly the Pasco)

A Wheel That Makes Its Own Sales Talk

Set a National Wire Wheel beside any other wheel, and ask one of your customers which looks the best.

In nearly every case he will point to the National Wire Wheel. This statement is based upon investigation, not theory.

Your interest in the matter is obvious: a customer that is half sold at the first glance means a quick sale and a quick profit.

When your customer sees his car equipped with National Wire Wheels—realizes that he has added to its beauty and, consequently, to its value—your quick sale has made a friend for you.

These facts account for the rapid increase in the sale of National Wire Wheels. Car owners everywhere are being sold by their beauty.

In service, National Wire Wheels more than equal their appearance. They are built to serve well and wear well.

Your customers who drive Overland 4's, Chevrolet 490's or Fords will be especially interested in our "Pasco Type" of wire wheel.

Thousands of "Pasco Types" are lending grace to these cars and making ardent friends of their owners.

Letters from prospective dealers will receive prompt and careful attention. Some very valuable territory is still open.

National Wire Wheels will be on exhibit at:

New York Show, January 3 to 10
Space 19-20

Chicago Show
[Coliseum]
January 24 to 31
Space 62-63-64

NATIONAL WIRE WHEEL WORKS, Inc.
General Sales Office: Detroit, Michigan, U. S. A.

Factory—Hagerstown, Md.
Northern Elec. Co., Ltd., Montreal, Can. and Branches

(3)

National

Wire Wheels

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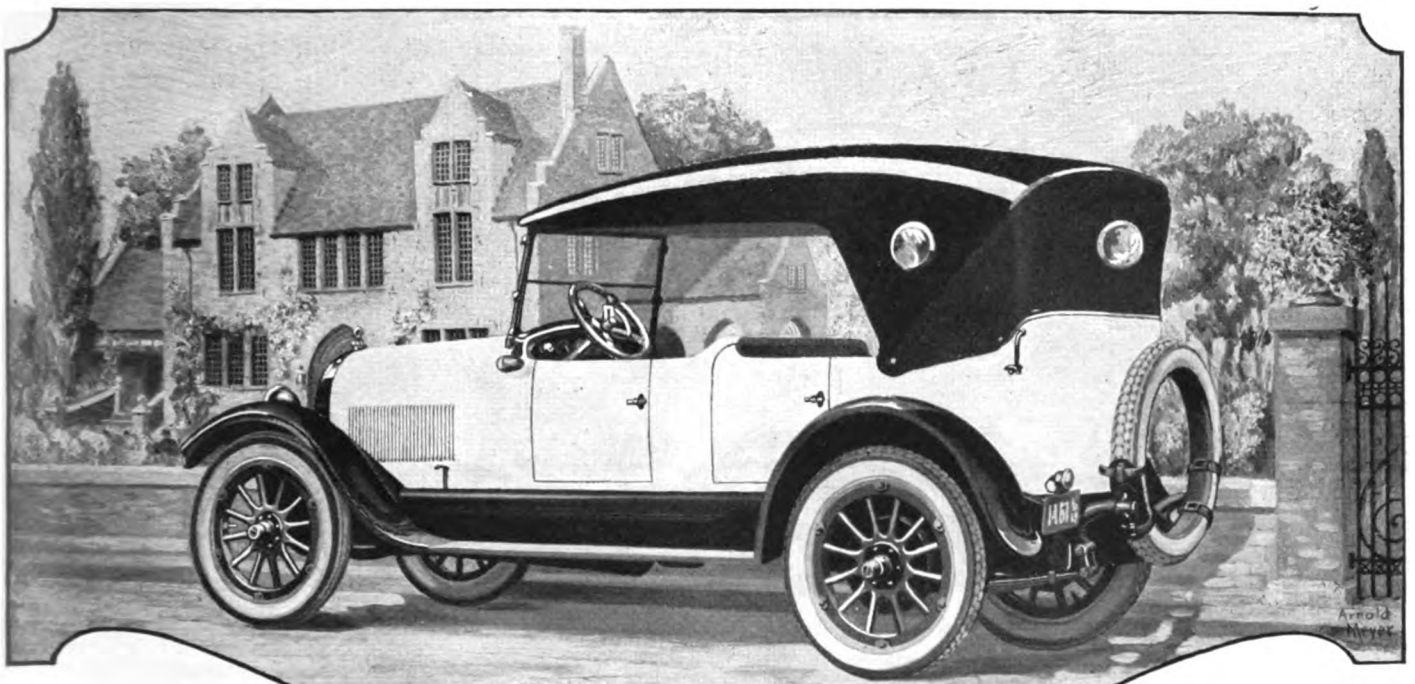


STEPHENS
Salient Six

Salient in Value — Salient in Service

That is a salient which is strikingly manifest or which catches the attention at once.
—*Webster.*

Built to prove worthy of the meaning of "Salient."

The surpassing excellence of its qualities and features, its acts of performance, are proofs of its "Saliency."

In the Stephens Salient Six you enjoy luxurious comfort combined with pride of the wonderfully attractive hand-built bodies—"Salient Value."

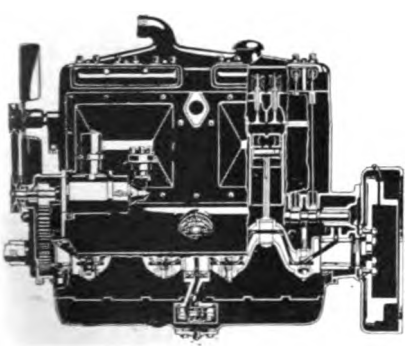
The Stephens engine is more powerful and economical than any engine of equal size—delivering "Salient Service."

The Stephens engine burns the lowest grade of fuel without lessened performance—"Salient Economy."

And that's not all—for its great reserve power makes the Stephens a Salient road performer.

It gives you speed, flexibility, hill climbing ability, quietness, combined with beauty and comfort at their maximum.

Altogether in one motor car—the Stephens Salient Six—you get a Salient Value and a Salient Service that gives the height of motor car satisfaction to you.



The Stephens Perfected Overhead-Valve Engine — the most powerful and economical engine of its size as established by the fact that the Stephens Salient Six has twice won the Los Angeles-Yosemite Economy Run.

Stephens Motor Works
of Moline Plow Company
Moline, Illinois
FACTORIES: FREEPORT, ILLINOIS

MORE POWER PER CHARGE ——— MORE MILES PER GALLON

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White Stripe Lining For Fords Brings In Business

It is true—

White Stripe is the fastest selling plain lining on the market.

"White Stripe brings in business," said one dealer. Thousands find this true, for the fame of White Stripe has spread from coast to coast, north and south.

White Stripe is famous for its smoothness of action and long wear. It will stop a Ford car with twice the ease and smoothness—and outwears several sets of any plain lining.

White Stripe is a wonderful combination of weave and treatment. The strongest, most expensive cotton is woven into a special weave —one that wears—wears—wears. Our specially built looms produce this weave.

In sets of three, $2.00. Rockies West, $2.25. Canadian price, $3.00.

In Rolls, 250 feet, 32c per foot. Rockies West, 35c. Canadian price, 40c.

Every strand of White Stripe weave is filled with a treatment that keeps it soft—protects it from the hardening effect of hot oil and friction. White Stripe never loses its softness—its smooth grip.

DEALERS—you need White Stripe. There is no plain lining the equal of it. It is a live item—a profitable article to sell. It will make and keep Ford customers for you—because it does for the Ford car what no other plain lining can do.

Get a stock of White Stripe now. Any jobber will quote you—or write us, direct.

Advance Automobile Accessories Corp., 56 E. Randolph St., Chicago

Every foot of White Stripe Lining is marked with a White Stripe

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Motor West

THE MOTORING AUTHORITY OF THE PACIFIC COAST

VOL. XXXII, No. 6 JANUARY 1, 1920 $2.00 PER COPY

LICENSE DOPE FOR CALIF. CAR OWNERS

Registration Year Begins February 1st —How to Estimate Fee—What to When License is Lost, Etc.

All applications for new automobile licenses in California must be filed prior to February 1, according to the warning of the State Motor Vehicle Department. The matter of registering has been made very simple.

All that is required of motorists is the filing of the upper portion of the 1919 certificate, accompanied by a check covering the required fee, with the department, or its branches in San Francisco, Los Angeles and Fresno.

The lower portion of the 1919 license left in the container is evidence that the car owner has applied for a license and permits operation of the car for thirty days, or until March 1.

Some valuable information on car registration procedure has been compiled and made public by the California State Automobile Association through its touring bureau. "If you are not the legal owner of the car," the Association especially warns, "see to it that the legal owner's name and address is endorsed across the face of the 1919 certificate so that it may be recorded on the 1920 certificate. If the certificate does not carry this endorsement the Department will assume that the registered owner is the legal owner—one who retains title to the car."

Should the certificate have been lost or destroyed the registrant must pay 50 cents for a duplicate before a renewal can be made. In case of loss or mutilation of the 1919 certificate car owners should return the official announcement received from the department with 50 cents and with form on the back filled out. The proper fee for the 1920 license should also be enclosed.

Be sure that the signature appears on the 1919 certificate. Where the motorist owns more than one machine he should send a separate check covering the 1920 fee with each certificate.

Under the new California motor vehicle act the operator's license will be good until revoked and it will not be necessary to renew each year as heretofore.

The proper fee can be ascertained by multiplying the given horsepower on the 1919 certificate by 40 cents. Electric vehicles pay $5 and motorcycles, $2. Unloaded trucks weighing less than 4,000 pounds pay $5; weighing 4,000 and less than 6,000, $10; 6,000 and under 10,000 pounds, $15; and 10,000 pounds and over, $20.

"Motorists who sold their cars during 1919 and did not give the department proper notice of the transfer may expect trouble in getting 1920 licenses," warns the Association. "They will have their certificates of registration returned to them and must pay fees on their new cars in addition to a 25 per cent penalty."

Under the new law the matter of transferring a car has been made very simple. The buyer of the car retains the same numbers and pays $1 for a new registration certificate.

Another feature in the revised law is that motorists must notify the Department in ten days of changes of address. Failure to do so is a misdemeanor.

Every car owner will receive a notice of renewal, also two blanks for operators' licenses. Those who do not have their renewals in the Department's hands by midnight, March 1, will be penalized 25 per cent.

The Department will furnish branch offices at San Francisco, Los Angeles and Fresno with a supply of license plates. Car owners may call in person at these branches, turn in their registration certificates and receive their 1920 plates.

Lens Testing Period in Seattle.

The 30-day period in which owners can have their headlights tested in Seattle by two deputy secretaries of state has not yet expired. After it does, arrests are to be made. That's what they all say, but the glarers glare on.

ROW PENDING OVER L. A. PARKING LAW

Too Rigid Ordinance Would Hurt City's Business—One-Way Traffic and Shorter Time Limit Suggested.

Passing a law will not wipe out an epidemic of measles, nor cure street congestion. Apparently the Los Angeles City Council overlooked this fact. After permitting congestion to increase without adequately studying methods to relieve it, it would pass a law so radically extending the non-parking area that a storm of protest has arisen.

The immediate appointment of a commission, to intensively study the situation would seem the wise way. There has been much correspondence between the large automobile clubs in various parts of the country, and between them and city authorities.

Studying this data unquestionably would make quick partial relief possible without stopping the progress of commerce. It is amusing that in Los Angeles, for example, the advisability of one-way traffic in certain streets is being discussed in a maybe-but-we-don't-know sort of way. In "slow" Philadelphia this idea has been in use for years.

That radical changes impend, as to downtown traffic in all cities, all admit. The sooner competent men are given the task of studying the situation, the less shock there will be in adjusting it. Shorter parking periods obviously are necessary, but as Motor West has pointed out, casual examination of the traveled surface of many streets will show that much of the area is used practically little. Increasing usable street area by giving moving traffic more fluidity of movement is quite as important or more so than restricting parking. Investigation will show that the inelastic street car transportation method is out of date; causes monopoly of entirely too much area. The used area in many streets would be increased at least 25 per cent if street car tracks were eliminated.

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NEW MODELS SHOWN BY L. A. DEALERS

1920 Jobs Plentiful on the Row—Both Passenger Cars and Trucks—Many New Buildings Going Up.

New models for the year 1920 produced by well-known automobile manufacturers continue to appear regularly in the Los Angeles field. The first National Sextet cars arrived recently, their late arrival being due to the slackened operation of Eastern railroads.

Bringing to an end a waiting attitude, held since last summer, the Standard Steel Automotive Co. has received its first shipment of Standard Eight models.

Roadster models, in particular, have been a scarce commodity for many months among most of the Los Angeles dealers. Harold L. Arnold, Essex dealer, reports his own difficulties banished for the time being with the recent arrival of Essex roadster shipments.

Among other newcomers are the Kissel town car, the Studebaker "20" and the Dorris four and seven-passenger models, new to the Los Angeles territory.

Strike troubles notwithstanding, W. B. Conditt announces himself as hopeful of shortly receiving the first Los Angeles shipment of R. & V.-Knight cars, formerly known as Moline-Knight. The favor shown the new R. & V-Knight is keen and W. B. Conditt has been forced to treble his orders to make January deliveries.

The Jordan factory has been induced by Seager, Clark & Co., of Los Angeles, to start en route fifteen carloads of Silhouette models.

Of Grant cars there are sixty new models en route, and more to follow, stated F. O. Renstrom recently.

Closed models of the Cleveland Six will soon be ready for delivery, especially on the five-passenger and four-passenger sedan types, while additional shipments are on the way, announces W. P. Herbert & Co.

The proportion of dealers able to make early deliveries is greater than it has been for a year. Among those in this position are the dealers for Velie, Studebaker, Briscoe, Mitchell, Elgin, Nelson, Overland Four, Essex, Columbia, Moon, Haynes open models, Stearns, Pilot Six, Winton, Oldsmobile, Kissel, Apperson, Allen and King cars.

The difficulties which befell National Sextet shipments, destined for the Rutledge Motor Car Co., are an extreme example of the disorganized condition of the railroads. The Rutledge firm's sales manager, H. A. Burges, took the wheel of the first National Sextet when it reached San Francisco and drove it down to Los Angeles.

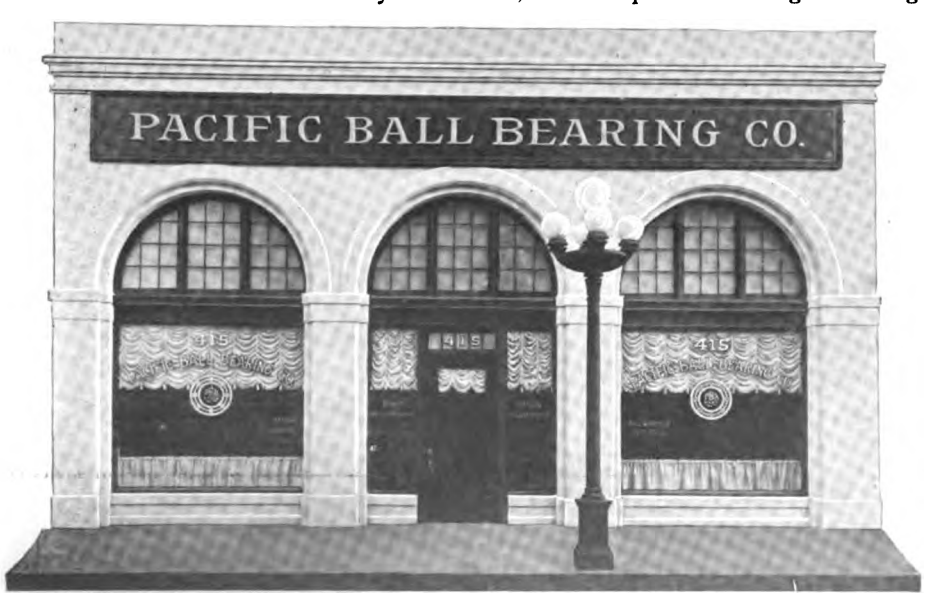
The King Eight dealer also comments on railroad conditions, but while waiting for cars to become plentiful is building up a receptive dealer organization in Southern California.

Los Angeles automobile dealers continue to add to the list of the city's fine-appearing sales buildings. The Miller Tire & Rubber Co. of California will shortly occupy a new two-story building on South Hope St., which cost $25,000 to build. The Albertson Motor Co., Maxwell & Hoffman, W. P. Herbert & Co., Harrison M. Hanshue, Chevrolet Motor Co. of California, Dowling & Fisher, Rutledge Motor Car Co. and the McKelvey Motor Car Co. are other dealer firms who have buildings being erected for them.

The Leach-Biltwell Co., manufacturer of the Leach Power-Plus Six car, have acquired the large buildings in the nearby suburb of Vernon formerly housing the Republic Motor Truck Co. The company's schedule calls for 1,000 Leach cars a year. The car is to be exhibited at the coming Chicago national show under the personal direction of M. A. Leach, president, and C. N. Graves, Eastern purchasing agent.

Details of the Californian, another high-grade car to be built in Los Angeles, have recently been made public. The Californian is to appear in two models on a standard chassis, 134-inch wheelbase—a seven-passenger touring car and a four-door, four-passenger "sport" model. Standard units of high reputation are used throughout, purchased in the Pacific Coast territory wherever possible. The manufacturers are the California Motor Car Corp., of Los Angeles.

In the field of Los Angeles truck dealers many are announcing ability to fill orders either immediately or at an early date, among them those handling Jumbo, Selden, Kissel, Nash, Transport, Chevrolet and Moreland.



HANDSOME NEW HOME IN THE PACIFIC BALL BEARING CO. IN LOS ANGELES.

Cleveland Stunt on Mt. Hamilton.

By going from Oakland to Mt. Lick observatory, at the top of Mt. Hamilton, in ordinary time, thus showing the motor was not saved, and with fan belt and water pump inoperative, the Cleveland Six touring car accomplished what is regarded as an extraordinary feat. The efficiency of its motor was more than amply demonstrated. The stunt was originated and accomplished by the Peacock, Alexander & Hunt Co., of San Francisco, Northern California distributors.

New Home for Pacific Ball Bearing.

Moving into a new building on West Pico St., Los Angeles, three years ago, the Pacific Ball Bearing Co. felt sure itself that ample room was now at hand to met all the congestion coming with the expansion of future years. Now, however, they are located in another new building, especially designed and constructed for them, at 406 W. Pico St., west of Grand Ave. and in the heart of the Los Angeles automobile district.

The re-grinding of ball bearings and the making of special bearings is the main business of the company's machine shop. In addition to patents on their machines the company is licensed to re-grind all bearings made under the Conrad patents. They act also as factory distributors for Fafnir ball bearings and Bower roller bearings.

The Pacific Ball Bearing Co. is a Western company and has been in business for eight years. A. E. Mulford is manager of the company and Samuel Strom, superintendent.

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BIG HOLIDAY TRADE HELPS S. F. DEALERS

Outlook for 1920 Excellent, as Car Dearth Has Been Overcome—New Passenger Cars and Trucks.

Automobile dealers in San Francisco during December brought special pressure to bear on the factories in order to present well-stocked sales rooms to customers in the Christmas and New Year buying mood. The fuel shortage is still a fact and winter conditions have slowed up railroad transportation; nevertheless the number of dealers announcing themselves able to make quick deliveries for the opening week of 1920 is unusually large.

As regards the opening of new distributing connections, announcements of expansion and new buildings, the past two weeks has seen a comparative lull in the San Francisco field, though sales have continued on a strong, even keel.

A number of new models of well-known lines have recently been introduced in San Francisco, among them the Mitchell five-passenger sedan and four-passenger coupe, Grant roadster, Overland Four roadster, Standard Eight and Elgin four-passenger sport, five-passenger touring and five-passenger sedan.

Immediate or reasonably prompt filling of orders were recently reported as possible on Grant Six, Dorris, Mercer, Cole Aero Eight, Briscoe, Moon, Elgin, Pilot Six and Biddle; Essex, King Eight, Templar and Oldsmobile in limited numbers during the Christmas period.

The near future has more hope for many dealers than the present. The Stutz allotment will be materially increased after Jan. 1, expects Latham, Davis & Co. On Chandlers, E. L. Peacock expects to be able to fill orders more quickly during 1920, but warns that spring will mean the beginning of another waiting time for buyers.

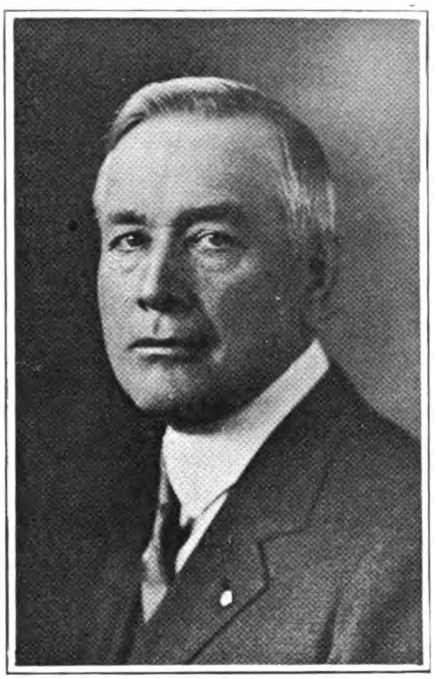
The Standard Eight car has taken a long time before appearing on the Coast, where both San Francisco and Los Angeles dealers have lately received the first shipments since last summer; the White-Humphries Co., new San Francisco dealer, looks for a large number within a short time.

Ray Holloway reports that McFarlan Sixes are now arriving more frequently and he will soon be able to make prompt deliveries. A limited number of Cadillac victoria models are available for January delivery. Deliveries in rotation are still in effect on Hupmobiles and Buicks.

Factory shipments on the new Grant Six have been resumed, reports F. O. Renstrom, breaking the lull that set in after the arrival of the first few 1920 models. On the Paterson Six, a newcomer in the local field, the first arrivals were quickly sold and the McFarland Motor Co. has offered the factory to take all the cars, they can give for the 1920 season.

F. O. Renstrom reports active sales on the Briscoe, which he handles for all California. One of his branches took 58 orders in a recent six-day period. The favor accorded the Elgin Six caused Jack Crick to place another order for a solid train-load of them.

New agencies are for the Standard Eight and the Commonwealth cars, both taken by the White-Humphries Motor Co. They are having new sales quarters built at Van Ness Ave. and Pacific St. The Shellback Motor Sales Co., Moon cars, are having built a two-story home at Washington St. and Van Ness Ave. The new Van Ness Ave. quarters of Al. G. Faulkner are near completion; he will be succeeded in his present location at 1656 Van Ness Ave. by the Pacific Motors Corp., new King Eight dealer.



GEORGE F. DRAKE,
Vice-President and Manager Drake Lock-Nut Co., San Francisco.

Motor truck dealers reporting ability to make prompt deliveries are those handling Moreland, Diamond T, Chevrolet, Republic, White and Traffic trucks. Among new arrivals is the Hall truck, which appears in five models, ranging in size from two to five tons.

California bought three times as many Reo Speedwagon trucks during 1919 as were sold in 1918, states Leon T. Shettler, general manager of Earle C. Anthony, Inc., state distributor. Visiting the factory recently, Phil Hirsch contracted to handle $1,000,000 worth of Traffic trucks during the year 1920.

Drake Lock-Nuts Go 'Round World.

One notable instance of how products and ideas originating on the Pacific Coast have scored remarkable favor and success throughout the entire country, indeed all over the world where automobiles are used, is furnished by the case of the Drake Lock-Nut Co., of San Francisco.

The Drake Lock-Nut originated with George F. Drake, a San Franciscan, back in the fall of 1916, when a closed corporation of enterprising men decided to manufacture the Drake product there and put it on the market.

The Drake Lock-Nut Co., of San Francisco, was born in war times, in the spring of 1917. It experienced all the vexations of war time in the way of shortage of material and machinery, but the first automatic screw plant was started in San Francisco after many thousands had been made by hand to prove the market.

From a very early date three-quarters of all the Drake lock-nuts manufactured in San Francisco were shipped east of the Rockies, where some of the largest manufacturers began to use them as standard equipment.

Demand from the Eastern market reached a point where Eastern manufacturing facilities became necessary. A large screw manufacturer in Cleveland, O., took over Drake interests east of the Rockies and prepared to manufacture Drake Lock-Nuts for the automobile engine and machinery trade in the East, leaving the Pacific Coast and the Orient to be handled by the original San Francisco plant.

After releasing his great Eastern business George F. Drake has built up a great market up and down the Coast, where Drake Lock-Nuts are used by many large manufacturers, and also in the Far East. The California-born product will also probably be manufactured in Canada and England.

Seattle Show to Break Records.

The second post-war Seattle automobile show is expected to throw many former records aside as regards number and beauty of exhibits and size of attendance and proportion of interested buyers. It will take place in February, and meanwhile Western Washington dealers have their thoughts on the national shows in the East, particularly on that to be held in Chicago. At least one special train, accommodating some 25 members of the Washington Automobile Chamber of Commerce, and perhaps two trains, will leave Seattle in the middle of January bound for Chicago.

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COLD SNAP SLOWS PACIFIC N. W. TRADE

Fuel Shortage and Railroad Delays Still Hold Shipments Back Somewhat Conditions Are Improving.

The recent cold spell that fell to the lot of the Pacific Northwest did nothing to enliven business for automobile dealers in Seattle. Added to this are the fuel situation still harassing the Northwestern transcontinental roads and the snows in the mountains to further delay shipments of new cars to the Coast.

The acute stage of the shortage of automobiles wherewith to meet orders has been passed, business conditions have quieted down from the busy autumn season and, in general, Seattle dealers can afford to move more leisurely now that the short spurt of Christmas sales is over.

A number of the local firms have been able to satisfy the demand at their door and then turn their attention to their out-of-town dealers. The Summit Motor Car Co., handling the Saxon, states that it has cleared up its Seattle waiting list. Demand, it reports, is especially good from the Bellingham and Tacoma districts. For the Tacoma dealer alone a minimum of 200 cars has been allotted, shipments due in February.

One carload of Haynes cars has recently gone to Cashmere, in central Washington, to meet the demand there; two carloads were distributed among other dealers, according to the Victory Motor Car Co.

On the other hand, J. Walter Hainsworth is convinced that it needs a super-diplomat to turn away out-of-town dealers satisfied.

Before July 31, 1920, the Pacific Northwest is to receive more than 20,000 Ford cars via Seattle, the Ford branch in the city, discontinued during the war, having resumed operations. By June it will be producing assembled Fords at the rate of 125 a day.

Within a recent thirty-day period the Eldridge-Buick Co. received 91 trainloads of Buick cars, yet warns that orders must be placed immediately to secure early spring deliveries.

The complete Haynes line for 1920 is now to be seen in Seattle, shipments on all seven models having recently reached the Victory Motor Car Co.

On the Ace car, designed by Seattle men and being built in a new plant at Ypsilanti, Mich., deliveries start sometime in January, according to the Dragon Motor Car Co.

The first Chevrolet car of 1920 design has recently arrived in the Northwest, this being one of the first five models coming out of the Oakland, Cal., plant.

In six weeks the Cascade Motor Sales Co. received eleven trainloads of Stephens cars; only a few are now on hand for delivery, they report.

All models of the new Overland Four have now been introduced to the Seattle public. Other new appearances are the Oldsmobile 1920 coupe, the Paterson Six line, Apperson four-passenger roadster, Davis Six sedan, Mitchell five-passenger sedan and four-passenger coupe, National Sextet, Buick seven-passenger, Essex roadster and the 1920 Maxwell line.

Immediate or early deliveries have recently been declared possible by the dealers handling Oldsmobile, Stutz, Winton Six, Maxwell, Comet Six, Davis Six and Haynes cars; on Stephens and Paterson each a few cars available.

The automobile department of the well-known Frank Waterhouse & Co. has been taken over by a new firm, the Sands Motor Car Co., which will continue to handle Studebaker and Marmon cars as a separate firm. P. E. Sands, high in the councils of the Waterhouse organization, will be manager of the Sands firm, in which Frank Waterhouse is a stockholder.

Among the motor truck dealers Vernon A. Smith, with Diamond T trucks reported as selling strong in every part of Washington, has yet found time to devote to foreign trade and has recently made several shipments to the Orient and to India. More than two hundred Reo Speedwagons have been sold in Seattle to date, reports the United Motors Co. Recent new trucks arriving are the Atterbury, Gramm-Bernstein and the International 1½-ton.

The Gersix Mfg. Co., a local truck manufacturing concern, has expanded to a point where they can fill demand from all parts of the Pacific Coast. Recently they added a 3½-ton truck to their earlier 1½ and 2½-ton models.

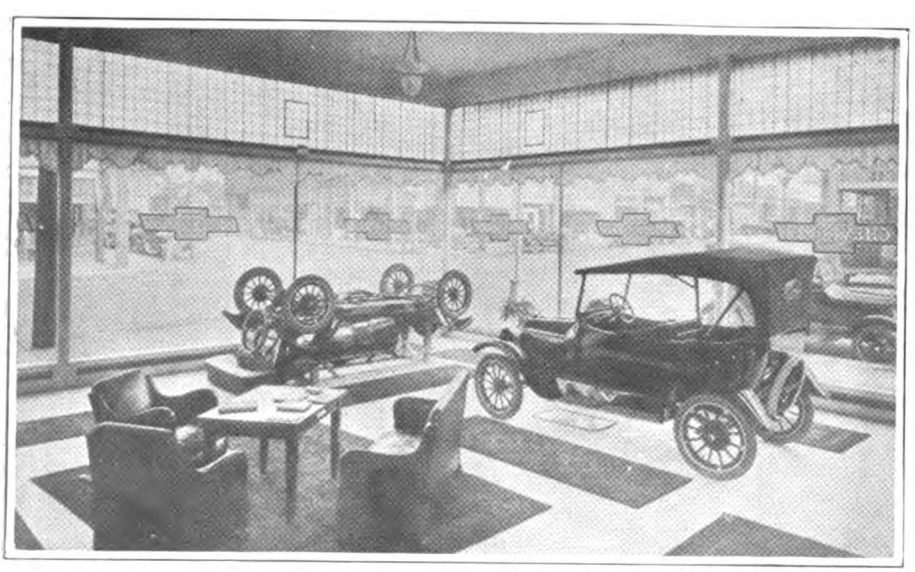
Among new automobile sales buildings now in course of erection are those for the Great Western Motors Co. at Broadway and Union Sts., to cost $75,000; a two-story brick building for the Stewart Motor Car Co., new Pilot Six car agency, at Thirteenth Ave.; a two-story building at Twelfth Ave. and E. Union St. for the Cascade Motor Sales Co.; the Greater Motors, Inc., a new home at Melrose Ave. and Pike St., to cost $78,000; and the Pioneer Auto Co., one of the largest sales and garage buildings west of the Rockies, with four stories and located on Melrose Ave. near Pine St.

Upsets Precedents on Sales Floor.

When W. S. Dulmage, of Seattle, Washington, where he distributes Chevrolet cars, decided to upset all precedents he did so literally. As a result window-gazers and fleeting automobiles approaching the busy corner of Pike and Tenth Sts., Seattle, were caught and held by the spectacle of a Chevrolet which had come to rest face downward apparently after some wild actions around the sales floor of the Dulmage Motor Car Co.

Fortunately this Chevrolet had seemingly paused upside-down on a convenient small-sized platform, where it lay, wheels in air, all its vitals displayed to the interest and the "well-I'll-be-darned's" of the Christmas-time crowds. Emphasizing the unusualness, there stood close by another Chevrolet in the usual, sober wheels-on-the-ground position.

Sales had been somewhat stagnant, says Dulmage, but his unusual demonstration broke the dullness. There is nothing about the Chevrolet that must be hidden, he maintains; his aim was to prove that to the automobile-wise spectators, many of whom are improving their acquaintance as present Chevrolet owners.



DULMAGE UPSETS PRECEDENTS AND A CHEVROLET ON HIS SALESROOM FLOOR.

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Gates-Kelley to Sell Californian.

The Gates-Kelley Automotive Co., of Los Angeles, recently announced that they have secured a contract for the factory output of the California Motor Car Corporation—the company bringing out the new "Californian Six"—for a term of three years; and are at this time negotiating for a new salesroom in the heart of the Los Angeles automobile row. It is understood that they will retain their present salesroom at the corner of Pico and Hill Sts., from which they will continue handling their present truck lines.

Both Mr. Gates and Mr. Kelley have had wide experience in merchandising passenger automobiles in the West, and are thoroughly familar with trade and market conditions from the Canadian border to the Rio Grande. The new distributor states without hesitancy that the "Californian" compares favorably with any car on the market of its size and price class, and predicts that it will spring into immediate popularity with Western motorists.

"In closing a contract for the factory output of the California Motor Car Corporation," said Mr. Gates, "we openly endorse this new product of Los Angeles, and publicly voice our belief that in the future the factories of the Pacific Coast will supply the automobiles consumed west of the Rockies. We are fortunate in securing the Californian account, inasmuch as it will enable us to be among the first in the field with a high-grade Western-made passenger car."

National Traffic Body to Meet Here.

The National Traffic Officers' Association will hold its annual convention in Oakland, Cal., in August, 1920. It will be made a civic affair of large proportions. Traffic control ideas of possible merit for national adoption will be discussed, and exhibits of mechanical methods will be made by factory representatives. There will be delegates from the national body of automotive engineers, the National Automobile Chamber of Commerce and the American Automobile Association. Advance work will be in charge of the California State Traffic Officers' Association.

Matters of importance were discussed at the recent meeting of the state association in Los Angeles. Headlight testing stations are to be established and violators of the motor vehicle law will be ordered to jail, it is said.

Chandler Sales Head on Coast.

James M. Dunlap, director of sales for the Chandler Motor Car Co., Cleveland, on pleasure bent on the Pacific Coast with Mrs. Dunlap, included in the meaning of that term a dinner at the Army and Navy Club, Seattle, given by Distributor H. P. Grant, of the Seattle Automobile Sales Co. Twenty-seven Chandler dealers of Western Washington attended, and were glad to hear Mr. Dunlap say the company had anticipated coal and steel troubles. Enthusiasm was caused by stories of the way President Chandler works—first in, last out of the office, every day.

Phoenix Adopts Traffic Ordinance.

The California motor vehicle law was put before Arizona's legislature too late for consideration, but the new Phoenix traffic ordinance will control—if it is enforced—most of the motor vehicles in Maricopa County, and so about one-third of all in the state. Instruction, then penalties, is the perfectly good intention. A little more leeway in time, as to headlights, than on other features. Fourteen makes of lamps are legal—double the number first selected.

The speed limit is raised, but is 15 miles in the business section, 20 miles in suburbs. Delivery boys are hit by prohibition of drivers under 16 years of age. Many curb lizards are effected by the parking time limit.

Seattle Studies Its Traffic.

There are three times as many motor vehicles in Seattle, Washington, today as there were four years ago. This is one of the facts disclosed recently as a result of the study by city officials of the wonderful growth which now places Seattle as the third largest city on the Pacific Coast of North America.

Other investigations of traffic conditions at downtown street intersections showed that on one day during an eight-hour period 9,007 vehicles, the majority of them motor vehicles, passed the intersection of Fourth and Jackson Sts., 8,638 at Second and Pike, and 6,773 at First and Pike.

American Tires Take Well.

Remarkable progress in the sales of American Akron tires, tubes and repair materials is reported by the Lathan Auto Supply Co., of San Francisco, American tire distributors. The line is comparatively new on the Coast; in the East it is well and favorably known. An extensive advertising campaign is planned by the Lathan firm for 1920.

Maybe Back to "Wash."

Members of the Automobile Club of Western Washington feel that the abbreviation "Wn." on state motor vehicle license tags is giving the state of Wisconsin a lot of unearned publicity. Washington tourists traveling in the Middle West are taken for Wisconsin people, because the names of both begin and end in "Wn."

SAN DIEGO OUTLOOK BRIGHTEST EVER

Completion of Through Rail Route to East Booms Business—Three New Car Agencies in Two Weeks.

Business conditions among the automobile dealers of San Diego, representing some twenty or more cars and trucks, are for the most part merely a reflection of the fortunes of distributors in the larger centers of Los Angeles and San Francisco.

Properly speaking, there are no car distributors in San Diego, although several dealers have large territories including the wealthy Imperial Valley sales field. The long-awaited straight-through railroad connections to the Valley, Arizona and the East are at last a fact and business conditions are brisker than at any time since 1915-'16, the Exposition period.

New car agencies are Olson Brothers, handling the Paige; Haddan & Maddux, the Moon; and the White Garage, the Metz Six. Immediate deliveries are promised on Briscoe, Liberty, Maxwell and Mitchell cars by the dealers handling them; Chalmers cars are also available in touring car models and Franklin and Hupmobile in sedans.

The local branch of the William L. Hughson, Federal truck dealers, recently held its annual banquet, at which the firm's twenty employes received $4,000 in bonus checks.

The Automobile Trade Association of San Diego County met recently, some fifty members attending. They formally protested against the occupation tax considered by the city council. An increase in storage rates was also discussed, to be probably 10 cents more a day, following the lead of other Coast cities. Automobile mechanics themselves are asking for raises in pay of $1.25 to $1.50 a day.

Lathan Back From Orient.

J. E. Lathan, president of the Lathan Auto Supply Co., of San Francisco, returned recently from a trip to the Orient, enthusiastic over the reception afforded him and the prospects for extended Oriental trade.

"Without exception," he states, "the Oriental buyer is very favorably inclined toward American-made goods and the welcome I received was gratifying. American cars have the preference over all other foreign makes and there is a general inclination toward good roads." Lathan's trip took him through the Far East from Japan to the Straits Settlements and he was gone for seven months.

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SPEED FIENDS MAY FORFEIT LICENSES

Portland's Traffic Head Urges Enactment of State Law to This Effect—Fines Do Not Fill Bill.

So many fatal automobile accidents have occurred lately in Portland, Oregon, the great majority of them due to careless or reckless driving, that Capt. H. A. Lewis, head of the traffic division of the police bureau, is urging enactment of a state law for the issuance of revocable licenses to drivers of automobiles.

Accident figures for the past three years in Portland show an increase this year of 100 per cent over two years ago. The figures follow: 1917, total of 4,000 accidents and 22 deaths; 1918, 6,000 accidents and 28 deaths; 1919, first ten months only, 8,600 accidents and 32 deaths.

"Every automobile driver should be made to carry a certificate which would be revocable by the court if he or she proved to be a reckless or incapable driver," declares Capt. Lewis. "The present fines do practically nothing towards cutting down recklessness and speeding. If a driver is 'caught' he pays his fine and charges it up to 'operating expenses.' If the reckless driver were forced to give up his license for a time and to leave his machine in the garage, say, ten days, a month or longer, he would hesitate next time before violating speed and traffic laws."

At the same time the captain declares that 80 per cent of accidents in which pedestrians figure are due to those on foot "blundering across the streets as if ox team traffic were still in vogue."

Portland has now reached a point where one-way traffic on the streets seems the only solution of the down town traffic congestion problem. The city is unfortunate in having been laid out with narrow streets. The city council has already mapped out a tentative plan for putting a one-way traffic system into effect in some of the principal down town streets.

Hough Goes On His Own.

J. V. Hough has resigned as Los Angeles branch manager of the Chevrolet Motor Co. of California and on January 15 becomes Chevrolet distributor in the wealthy sales territory embraced in Long Beach and the Los Angeles Harbor district.

Kleiber Makers Expand.

Kleiber & Co., of San Francisco, makers of the Kleiber truck, have placed orders for 1,000 trucks to be manufactured in 1920. Additional property has been purchased on Folsom St., increasing their factory's floor area by 25,000 square feet to accommodate the expansion for 1920. The company has also widened its sales territory, appointing dealers in the Sacramento Valley, Imperial Valley, eastern Nevada and Denver, Colo.

Heartz Resigns From Moreland Co.

The resignation of Roy D. Heartz as general sales manager of the Moreland Motor Truck Co., Los Angeles, is a surprise to his many friends and associates throughout the automotive industry.

For three years Mr. Heartz, through his enthusiasm, zeal, initiative and knowledge of the business, has been a strong energizing influence in the rapid progress of the Moreland organization, and his retirement will be generally regretted. Mr. Heartz came to the Moreland Co. after important connections with some of the largest Eastern plant in the industry. It is his intention to take a brief rest before taking up a new connection in the trade.

ROY D. HEARTZ,
Who Has Resigned as Sales Manager of Moreland Motor Truck Co.

Northwestern Clubs May Unite.

Plans for forming an Eastern Washington Automobile Association by consolidating the Inland Automobile Association, of Spokane, with the Tri-State Association, of Walla Walla, have recently been discussed. The Tri-State has 500 members; the Inland, 300. Northern Idaho and western Montana may be included.

Generous Outlay for Oakland Show.

A total of $13,500 will be spent on the staging of the Oakland Automobile Show, to be held at Oakland, Cal., Jan. 19-25, the first important one of its kind on the Pacific Coast during the new year of 1920. The decorations setting off the exhibits in the Oakland Civic Auditorium will represent the outlay of $10,000, while $2,000 will go for publicity and $1,500 for music.

Robert W. Martland is show manager; he is assisted by a show committee appointed by the Alameda County Auto Trade Association. Applications for space by dealers have already exceeded the 21,000 square feet of floor space contained in the Auditorium, Martland reports, and space already taken will have to be decreased in order to make the show a representative event for the East Bay motor car trade.

King Dealers Get Going.

The business of distributing King Eight cars in San Francisco and Los Angeles has been put fairly under way by the Pacific Motors Corp., which has joint sales establishments in both cities. Stephen I. Kux is general manager for both branches; H. C. Tull is Northern California manager; and A. W. Young, Southern California manager. The former Marmon dealer's sales quarters have been leased at 1656 Van Ness Ave., and in its service department the firm will carry $50,000 worth of King parts.

Take Standard "8" and Commonweath.

Standard Eight and Commonwealth cars will be distributed in Northern California and Nevada by the White-Humphries Motor Co., of San Francisco. Both lines have been seen in the southern part of the state for some time, but are more recent arrivals in the north. The officials of the White-Humphries firm are W. H. White, president; H. F. Humphries, treasurer; C. M. White, Jr., vice-president; and M. Frank Strauss, sales manager.

New Home for Moon Dealer.

Some time in April, 1920, the Shellback Motor Sales Co., handling the Moon car in San Francisco, will occupy a new building being erected for it on Washington St., near Van Ness Ave. It will have dimensions of 55x127 feet and two stories and be one of the most beautifully planned dealer establishments in the city.

Bonus to Hughson Employes.

Three hundred employes of the six branches of the William L. Hughson Co. recently received their annual bonus checks. The company adopted the policy several years ago of sharing profits with those who made profits possible.

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Still Need Reminder.

Violators of the California headlight and traffic signal laws are soon to be confronted by a state-wide crusade, strongly supported by the California Traffic Officers' Association. In San Francisco glaring headlights and neglect of arm and hand signals are no longer ignored. Warnings are being sent out at the rate of 80 a day, according to Lieut. Daniel J. Sylvester, of San Francisco, head of the traffic officers' body. There will be arrests and many of them throughout California, he predicts.

State Prosecutes Lens Offenders.

Car owners of Spokane, Wash., are being reminded in a vigorous "safety campaign" of the recent edict of Secretary of State I. M. Howell that headlight lenses must be adjusted to comply with the state law. The Washington law provides that 27 candle-power is the legal limit and that the light shall not rise higher than 42 inches from the ground at a point 75 feet ahead of the car. Flagrant violations have been reported and prosecutions are to follow.

Trexler Opens Coast Branch.

The Trexler Co., of Philadelphia, Pa., manufacturers of practical automobile accessories, has opened a Pacific Coast factory branch at 516-18 Van Ness Ave., San Francisco, to handle increasing business on the Coast. New to the Coast, their lines are meeting with instant demand, they report, and will be exhibited at the San Francisco and Portland automobile shows.

Take Powrlok for All of California.

The Powrlok, a skid-preventing differential device, will be distributed throughout the state of California by the Auto Machine Co., of San Jose, headed by J. P. Schoenberger and F. G. Wildhagen. The Powrlok is claimed to save gasoline, tires and do away with the possibility of disastrous skidding by delivering positive, even pull to both rear wheels.

G. M. Daniels Succeeds Tehaney.

G. M. Daniels, former Oakland newspaper publisher, has been appointed superintendent of the California Motor Vehicle Department. He succeeds P. J. Tehaney, who resigned recently to enter the newspaper field in San Francisco.

Republic Opens Parts Depot.

The Republic Motor Truck Co., of Alma, Mich., has opened a truck parts depot in San Francisco, which will carry a quarter million dollars' worth of the high-grade components which have made for Republic success. The San Francisco branch will take care of all the trade west of Denver and Hawaii, Japan, China, the Philippines and Australia. The new depot, at the lower end of Fourth St., San Francisco, has 12,000 square feet of floor space. George Perry, who has directed the establishment of other parts depots, will be manager.

Painting Costs Rise in Spokane.

Automobile painting costs 25 per cent more now in Spokane, Wash. Fifteen employing painters have organized the Automobile Painters' Association after their employes formed a branch of the painters' union and were granted $6.50 for an eight-hour day's work.

JOHN J. SHAFFRAN

Newly appointed representative for the Braender Tire & Rubber Co., of Rutherford, N. J., in the Southern California territory. His appointment is the latest step in the building up by the Braender factory of energetic distributing connections on the Coast, following the visit and travels on this side of the Rockies of J. E. Allen, president of the company. A factory branch has been opened in San Francisco at 131-33 Eighth St., of which E. F. Zuern will have charge.

Rankin Reaches to Coast.

The recent alliance of the William H. Rankin Co., of Chicago and New York, with the Honig-Cooper Co., of San Francisco, marks the coming of important advertising connections to the Coast. The two companies have at their command each other's personnel and equipment. The connection is an alliance, not a merger, it has been announced.

Inland Empire Club Expands.

A campaign to increase the membership of the Inland Automobile Association from 245 to 1000 has been launched by Spokane officials and, according to Frank W. Guilbert, secretary, the full quota of members will be raised by winter.

BIG RACE SEASON FOR PACIFIC N. W.

Tacoma's Fourth-of-July Event at 200 Miles Will Feature Circuit—Many Crack Entries Assured.

The 1920 automobile racing season in the Pacific Northwest will open at Victoria, B. C., on May 24, to be followed by Vancouver, July 1, Spokane, July 4, and other events, held in rapid succession at Walla Walla, Yakima, Salem and other points. All of these will be under the auspices of the Northwest Automobile Racing Association.

The Tacoma Speedway will see a notable race, July 4, when ten of the best known drivers will compete for a purse of $25,000 in a 200-mile race and three heats, staged under direction of the Tacoma Speedway Association.

The Tacoma track officials will announce the line-up of drivers and cars in the near future. The number of drivers will be double that of 1919, while the $25,000 purse shows an increase of $10,000 over last year's, making it the largest ever offered on the Pacific Coast for either road or track racing.

Racing cars at Tacoma will conform to the 183 cubic inch piston displacement rule. They will thus be driven by engines only a few cubic inches larger than the Ford engine. Car wheelbase will naturally be smaller and Tacoma contestants in 1920 will all drive new cars.

The length of the main race will probably be 200 miles, according to W. C. Baldwin, president of the Tacoma Speedway Association. Preceding it will be a qualifying test, presenting ten drivers in ten laps competing for position.

Several drivers notable throughout the Northwest are likely prospects for the Northwest Automobile Racing Association events, among them George W. Lott, driving the former Jim Parson's Stutz and another car; Jack Ross, a one-time Earl Cooper Stutz; E. J. Romano, who will drive another car than the Romano Special, which did not perform so well last year; Ira Hayes, Hayes Special; and Gus Duray, who carried off most of the Northwestern honors last year.

The success of last year's racing in British Columbia was so evident that prominent automobile men are planning an automobile speedway. Manager Hiller of the Northwest Association has leased the Minoru Park track in Victoria and the Coeur D'Alene track at Spokane, both one-mile tracks.

Join the Ship-by-Truck Movement.

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OAKLAND TO HAVE BIG TIRE FACTORY

Plans Perfected for the Building of an Immense Plant There by the Coast Tire & Rubber Co.

Recognition of the advantages offered by the Pacific Coast in the matter of plentiful raw material from the Far East, an excellent close-by market, and lower costs of power and labor are found in the announcement of the recent formation of the Coast Tire & Rubber Co., of Oakland, California.

A plant site in Oakland has already been chosen; production for the first two years decided; and the working out of a unique sales plan perfected. Back of the company stand the names of several Midwest and California men of substantial standing.

The Coast Tire & Rubber Co. is organized under California laws, with 50,000 shares of 8 per cent participating preferred stock, par value $10 a share, and 50,000 shares of common, $10 par value. Both classes of stock are fully paid and non-assessable, it is announced. Permission to sell 20,000 additional shares of each class has been given by the state corporation commissioner; the proceeds will furnish capital to carry plans as outlined.

The company's board of directors consists of the following men: Harold Geisse, former Wisconsin Railroad Commision secretary and now assistant to the vice-president of the Middle West Utility Co., Chicago; W. D. Forbes, industrial chemist; N. B. Campbell, assistant cashier First National Bank of Oakland; N. J. Whelan, industrial commission U. S. Auto Gear Shift Co. and a director of the Gillette Tire & Rubber Co. of Wisconsin; John I. Pankratz, district sales manager Boone Tire & Rubber Co., Chippewa Falls, Wis.; Holmes Ives, secretary-sales manager Boone Tire & Rubber Co.; and Roy A. Thorpe, business man and state official, of Merced, Cal.

The site selected for the company's plant is at East 12th St., between 48th and 50th Aves., Oakland, conveniently located to railroad and electric transportation. During the first two years output will be of inner tubes, smooth, ribbed and non-skid fabric tires and mechanical rubber goods, manufactured of the best materials by skilled labor interested directly in the company's profits. The new plant will have an output of 300 tires and 500 tubes per eight-hour shift. The first building will cost $263,000, exclusive of working capital. E. Lawhorn, factory superintendent of the Boone Tire & Rubber Co., and previously connected with the Federal and Gillette companies, is factory superintendent of the new Coast Tire & Rubber Co.

"Our sales plan is not entirely new or original with us," the company announces. "It contemplates the sale of the product through stockholder dealers to the company's stockholders and their friends." Every stockholder gets a discount of 15 per cent off list price on tubes, bought for their own use exclusively. The resultant "word-of-mouth advertising" should create a demand for the entire output, the company's officers believe, a plan very successfully for the Hawkeye Tire & Rubber Co., of Des Moines, Ia.

They estimate their market, the Pacific Coast, embracing six of the Far Western states, as calling for 3,900,000 tires, $97,500,000 worth, annually. Tire distributing branches will be opened in Portland, Seattle, Salt Lake City, Los Angeles, San Diego, Oakland and San Francisco.

A large percentage of the crude rubber used in this country comes in through San Francisco from the Far East. Another advantage is given by high-quality fabric manufactured from the California long fiber cotton, woven in California mills. The ample supply alone of crude rubber and cotton fabric, according to the company, will enable the earning of substantial dividends.

HIGHER CAR PRICES COMING.

It seems to be a foregone conclusion that automobiles will sell at higher prices next spring. Many new increases go into effect January 1, or prior to the National Automobile Shows in New York and Chicago.

Several prominent automobile companies have intimated to distributors that an increase will come within 30 days. A flat increase of $100 is the average advance.

Higher-priced steel and coal are bringing the increased costs, while the shortage of both is retarding production in many cases.

Miller Tires Wholesale Only.

The Miller Rubber Co. of California, with factory branches in San Francisco and Los Angeles, has announced that in future only wholesale business will be handled through its branches. In Los Angeles the company is having erected a fine, specially designed two-story brick building on South Hope St., costing $25,000.

Wiltenstein Joins Hirsch.

Max A. Wiltenstein, who recently arrived on the Pacific Coast as district representative for an Eastern truck manufacturer, has entered the California truck distributor field, being appointed sales manager of the Hirsch Motor Truck Co., of San Francisco, distributor of Diamond T, and Traffic trucks.

Electric Material Opens L. A. Office.

The Roller-Smith Co., 233 Broadway, New York City, announces that its California representative, the Electric Material Co., 589 Howard St., San Francisco, has opened a Los Angeles office in the Title Insurance Bldg.

The Los Angeles office is in charge of E. H. Bell, who has had extensive experience in marketing electrical products.

The Electric Material Co. handles the Roller-Smith lines of Electrical Measuring Instruments, Watt-Hour Meters and Circuit Breakers in California, Nevada and parts of Oregon and Idaho.

Wilson Trucks in S. F. Territory.

Wilson trucks, manufactured by the J. Wilson Co., of Detroit, will be handled in Northern California, Nevada and the Orient by C. L. Fisher, prominent truck dealer of San Francisco. The appointment was announced by Harry F. Heard, Western sales manager for the Wilson truck. To the Wilson line a 1½-ton and a 2½-ton model have lately been added.

Car Thieves Hold Their Own.

During last month, November, cars stolen in California averaged slightly more than 11 a day. For the whole month 339 machines were stolen. And not all of these cars were without locks.

"Christy" Returns for Holidays.

"Christy" Walsh, editor of The Punch, house organ of the Chalmers factory organization, accompanied by his wife, passed the Christmas holiday week in California, visiting friends in San Francisco and Los Angeles. He is very well known on the Coast, having been formerly a sport writer and cartoonist in this territory.

Direct Branch for Sterling Truck.

A direct factory branch was opened in San Francisco January 1 by the Sterling Motor Truck Co., of Milwaukee, Wis., for the distribution of their product in the Pacific Coast territory. The branch, under the name of the Sterling Motor Truck of California, will be managed by Charles Kelly.

As vice-president and manager of the Edward R. Bacon Co., of San Francisco, Kelly has been very successful in increasing Sterling sales during the past four years.

The permanent location of the Pacific Coast branch will be at Twelfth and Mission Sts., where a new building is in course of erection.

The Sterling Motor Truck Co. are now in their fifteenth year of successful manufacturing of heavy-duty motor trucks.

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Large Plant for Leach-Biltwell.

The Leach-Biltwell Motor Co., of Los Angeles, has purchased the plant of the Republic Motor Truck Co. in Los Angeles. This gives them twelve acres of land, with three large buildings, besides office building, dry kiln, pump house, loading dock and spur track.

The plant, wherein the company will manufacture the Leach Power-Plus Six, was bought for $250,000 and is three miles distant from Los Angeles, with direct Santa Fe Railroad connections.

Change in Fisk Distribution.

The Fisk Rubber Co., of Chicopee Falls, Mass., is to establish a factory warehouse in San Francisco to meet the unprecedented demand for tires. Its regular schedule will be 60,000 tires and 60,000 tubes. Fourteen Fisk branches on the Pacific Coast, the Hawaiian Islands and the Far East will be supplied from this branch.

The establishment of the central branch at San Francisco means a change from the company's old policy of supplying the Coast demand from three main branches at San Francisco, Los Angeles and Seattle.

Northwest Adv. Firm Enters South.

The Izzard Co., of Seattle and Portland, has opened a branch in San Francisco—a great step in the company's Coast-wide service plan. Already well known for their merchandising and advertising work, especially for Pacific Coast advertisers, the Izzard Co. is brought closer still to manufacturers doing both local and national business.

The San Francisco office is in charge of S. H. Small, formerly with the Firestone Tire & Rubber Corp., of Akron, Ohio, and advertising and sales manager of the L. A. Young Industries, Inc., and a native San Franciscan. His work will be largely confined to automotive and farm equipment advertising.

Dream of Years Coming True.

Imagine a five-story building, with the first floor on a lower street on one side, and the second floor level with another street on the other side; the lower one a tremendous garage; the second for offices and showrooms for the Case and Paterson automobiles, Columbia motor trucks and Case line of tractors and farm machinery; the third and fourth floors for storing between 400 and 500 private machines; the fifth floor a repair department extraordinary, capable of fixing anything from tires to mohair top, from radiator can to tail light; with paint and body departments in charge of experts from the factories. In brief, what would make an old Roman stare and exclaim: Multum in parvo! which in United States means much in little.

Not little, by a long shot, though. The largest establishment in the automotive industry in Seattle is in the mind of Tom Fletcher of that city, and he has bought the ground on which to erect the realty at Fourth Ave. and Columbus St. For years it has been a dream of his. He studied it on eastern trips a long time before he went to his architect, James H. Schack.

Mohawk Tires on the Coast.

A great increase in the Pacific Coast distribution facilities of the Mohawk Rubber Co., of Akron, Ohio, has been made by the opening of the new Los Angeles branch. This new branch, located at the corner of Eighteenth and Flower streets, opened January 1st. Its first carload of Mohawk tires was shipped several weeks ago. A large stock of Mohawk casings and tubes is carried. Another Coast branch is located at 1436 Van Ness Ave., San Francisco. The northwest territory is covered by distributors in Spokane, Seattle and Portland.

Oregon Roadbuilding Facilitated.

Oregon, having gone practically to the limit of available state and Federal-aid funds, in road building enterprises, has accomplished a cutting of Federal tape beneficial to all states. Herbert Nunn, state highway engineer, attended the annual convention of state highway officials in Louisville, then went to Washington. Previously, permission had been given to build ahead of Federal-aid appropriation dates, but not to begin until next July. Mr. Nunn's visit to the national capital resulted in permission to go on now, paying all costs as usual, the Government to remit its share after customary and deliberate Federal procedure—and after a further lapse which in some states has been quite inconvenient. Anyway, it means road construction in Oregon will go on apace.

Luckier Than the Prophet.

Eight months has Barney Oldfield spent in far-off Cleveland, O., directing the career of the Oldfield Tire Co. there and the company's strides upward have been rapid. In the first seven months of its existence $4,500,000 worth of Oldfields were manufactured and sold. Recently Barney re-visited the old home town, Los Angeles. More than 150 Oldfield dealers were on hand at the banquet tendered by Hess & Sackett, handlers of the Oldfield line in Southern California, showing that the old prophet-without-honor saw is all wrong, in Barney's case, anyway.

GOODYEAR NAMES STAFF FOR COAST

Personal of Organization Which Will Assist A. F. Osterloh, Vice-President and General Manager.

The official personnel of the Goodyear Tire & Rubber Co. of California, which will handle all sales and business of the parent Akron company west of the Rockies and which is now building a large plant in Los Angeles, is practically complete.

At the head of the Pacific Coast organization stands A. F. Osterloh, vice-president and general manager. Charge of the operation of the Los Angeles plant has been vested in Clifton A. Slusser, also a vice-president, according to the most recent announcement. Slusser joined Goodyear in 1911 as a stenographer, rose steadily until he was recently manager of the personnel department and a vice-president at Akron.

When the new plant launches into operation in June, 1920, Frank Steele will act as assistant superintendent of production; H. B. Barron, division superintendent in charge of all tire manufacturing; W. R. Urquhart, engineering superintendent; P. J. Brady, purchasing department manager; and S. A. Steere, superintendent of the cotton mill.

Construction is being rushed rapidly on the first buildings of the plant group located near the southwestern city limits of Los Angeles and adjoining the famous Ascot speedway. Work is being superintended by a force of 50 men brought from Akron.

The proper and comfortable housing of the army of workers to be employed by the Pacific Coast plant has always been one of the foremost thoughts in the mind of President F. A. Seiberling, of the great Akron factory. Several million dollars are to be spent in the building of some 800 modern homes for employes. A large tract at the northern end of the 580-acre property purchased by the company has been set aside for this purpose. The best skill in landscape engineering will be employed and the district will be styled Goodyear Gardens.

Arizona Beckons Cole Dealer.

Cotton selling at 60 cents a pound and a great revival of mining operations in Arizona is back of the decision of Davidson, House & Meyer, of Los Angeles, to erect a branch agency in Phoenix. The company is Southern California andl Arizona dealer for the Cole Aero Eight. The Phoenix building will be a replica of the strikingly handsome Los Angeles quarters.

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New York Ready for 20th National Motor Show

Passenger Car and Motor Truck Divisions Will Exhibit in Separate Buildings—List of Exhibitors Larger Than Ever Before—Highway Transport Conference Will Feature the Motor Truck Show in 8th Coast Artillary Armory

WITH everything and everybody set for starting the New York Twentieth National Automobile Show, the motoring clans of the country are already gathering at the metropolis for this great exposition, which is an eagerly awaited event of each winter. The passenger car and motor truck divisions of the show will be held simultaneously this year during the week of Jan. 3-10, the passenger cars and accessories being displayed on four floors of Grand Central Palace and the trucks, including trailers, bodies, parts and accessories, in the 8th Coast Artillery Armory, Jerome Avenue and Kingsbridge road and 194th Street.

SAMUEL A. MILES,
Manager of New York and Chicago National Automobile Shows.

More than 83 makes of passenger cars, 67 makes of motor trucks, and 284 accessories will be on exhibition. S. A. Miles, manager of the National Automobile Shows states that this is the largest number of exhibitors and the most complete exposition of the industry in the history of the shows.

To carry out the decorative ceiling scheme adopted by the show management required bunting weighing 8½ tons.

Both of the buildings chosen to house the two divisions of the automobile show have the merit of accessibility. Grand Central Palace at 46th Street and Lexington Avenue, where the passenger cars will be exhibited, is well known as an exposition hall. Although 8th Coast Artillery Armory has never before been used for a public display, it is particularly well adapted to this purpose because of its size and because it is conveniently located near the subway and elevated. For the first time it will be possible to show complete lines of motor trucks without crowding. The floor of the Armory is 300 by 600 feet, unobstructed by posts and the building is believed to be the largest of its kind in the world. The roof, which is 110 feet high, is supported by sixteen steel girders each of them 12 by 12 feet at the base and extending 160 feet under ground to bed rock.

Visitors from all parts of the United States will be present at this year's show. Interest is keen to see what effect the war experience has had upon the industry. Experts who have studied the makes of passenger cars to be shown state that on the whole attention is still being given to production rather than design. For the most part the basic lines of last year's models have been adhered to, with considerable refinement in details. Some wonderful examples of advanced engineering will appear chiefly in the products of concerns which were doing war work on engines.

The year 1920 witnesses the celebration of the 20th anniversary of the automobile industry in America as an actual industry. Madison Square Garden saw the first real automobile show in 1900 during the week of November 3-10; there were 31 exhibitors of complete motor cars and 20 of parts and accessories. At the second national show held in the Garden in the first week of November, 1901, there were 51 exhibitors. There was no show in 1902, but in January, 1903, the third show was held with 150 exhibitors represented. By 1905 the number of exhibitors had increased to 250, and several applications had to be refused for lack of space. With the 1905 show the contract between N. A. A. M., the Madison Square Garden and the Automobile Club of America expired, and the Association of Licensed Automobile Manufacturers obtained a lease of the Garden for several years, with an option of renewing it.

ALFRED REEVES,
General Manager of National Automobile Chamber of Commerce.

With the expansion of the industry, each year saw more exhibitors represented at the show. In the exposition held January 8-15, 1910, there were 323, of which 54 showed cars, 23 motorcycles, and 226 accessories. In 1913 both Madison Square Garden and Grand Central Palace were obtained to afford space for the 545 exhibitors. During the first week of the show a total of 93 makers of passenger cars, 25 of motorcycles, and 372 of accessories had displays in the two buildings and during the second week 66 manufacturers of commercial vehicles exhibited their products.

As the war went on and we became more deeply involved in it, the automobile industry, like every other devoted itself almost exclusively to production for war purposes. During the dark days of 1918 it was decided by the National Automobile Chamber of Commerce that no show should be held in January, 1919. After the armistice was signed the manufacturers reiterated their decision because factories were too firmly on a war basis to be immediately reconverted to peace-time uses. The automobile dealers, however, planned to carry on unbroken the tradition of the automobile show. With the co-operation of manufac-

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Roster of Passenger Car and Accessories Exhibitors at the 20th National Automobile Show in Grand Central Palace, New York City

PASSENGER CARS.

Allen Motor Co.
Anderson Motor Co.
Apperson Bros. Auto Co.
Auburn Automobile Co.
Baker R. & L. Co.
Barley Motor Car Co.
Biddle Motor Car Co., Inc.
Briscoe Motor Corp.
Buick Motor Co.
Cadillac Motor Car Co.
Case, J. I. T. M. Co.
Chalmers Motor Co.
Chandler Motor Car Co.
Chevrolet Motor Co.
Cleveland Automobile Co.
Cole Motor Car Co.
Columbia Motors Co.
Comet Automobile Co.
Commonwealth Motors Co.
Crow-Elkhart Motor Co.
Davis, Geo. W., Motor Car Co.
Dodge Bros.
Dorris Motor Car Co.
Dort Motor Car Co.
Elkhart Carriage & Mot. Car Co.
Elgin Motor Car Co.
F. I. A. T.
Franklin, H. H., Mfg. Co.
Grant Motor Car Corp.
Haynes Automobile Co.
Holmes Automobile Co.
Hudson Motor Car Co.
Hupp Motor Car Corp.
Jackson Automobile Co.
Jordan Motor Car Co.
Kentucky Wagon Mfg. Co.
King Motor Car Co.
Kissel Motor Car Co.
Kline Car Corp.
Lewis Spring & Axle Co.
Lexington Motor Co.
Liberty Motor Car Co.
McFarlan Motor Co.
Maibohm Motors Co.
Nordyke & Marmon Co.
Maxwell Motor Co.
Mercer Automobile Co.
Metz Co.
Milburn Wagon Co.
Mitchell Motors Co.
Monitor Motor Car Co.
Moon Motor Car Co.
Nash Motors Co.
Natl. Motor Car & Vehicle Corp.
Oakland Motor Car Co.
Olds Motor Works
Olympian Motors Co.
Packard Motor Car Co.
Paige-Detroit Motor Car Co.
Pan-American Motors Corp.
Paterson, W. A., Co.
Peerless Motor Car Co.
Pierce-Arrow Motor Car Co.
Premier Motor Corp.
Reo Motor Car Co.
Root & Van Devoort Eng. Co.
Saxon Motor Car Corp.
Sayers & Scoville Co.
Scripps-Booth Corp.
Standard Steel Car Co.
Stanley Motor Carriage Co.
Stearns, F. B., Co.
Stephens Motor Branch, Moline Plow Co.
Stevens-Duryea Co.
Studebaker Corp.
Stutz Motor Co.
Templar Motors Corp.
Velie Motors Corp.
Westcott Motor Car Co.
Willys-Overland Co.
Winton Co.

ACCESSORIES.

A. B. C. Mfg. Co.
Accurate System & Manifolding Co.
Advance Auto Accessories Corp.
Alemite Die-Casting Mfg. Co.
Alexander, J., Mfg. Co.
Aluminum Castings Co.
American Auto Lamp Co.
American Bosch Magneto Corp.
American Bureau of Eng.
American Chain Co., Inc.
American Ever-Ready Works
American Hammered Piston Ring Co.
American Pump & Tank Co.
Ames, F. A., Co.
Anderson Elec. Spec. Co.
Arnold Electric Tool Co.
Arrow Grip Mfg. Co.
Asch & Co., Inc.
Atwater-Kent Mfg. Co.
Au-To Compressor Co.
Automatic Safety Tire Valve Corp.
Auto Pedal Pad Co.
Barnes Foundry Co.
Barney's Auto Parts Co.
Becker Brothers
Black & Decker Mfg. Co.
Blackledge, John W., Mfg. Co.
Breeze Mfg. Co.
Briscoe Devices Co.
Brown-Lipe-Chapin Co.

GRAND CENTRAL PALACE, NEW YORK CITY.

Brown-Lipe Gear Co.
Budd, Edward G., Mfg. Co.
Budd Wheel Corp.
Byrne, Kingston & Co.
Campbell, A. S., Co.
Casco Mfg. Co.
Champion Ignition Co.
Chase, L. C., & Co.
Chicago Steel Wheel Co.
Cleveland Heater Co.
Coffield Tire Protection Co.
Copp, George W., Co.
Corbin Screw Corp.
Corcoran-Victor Co.
Cowles, C., & Co.
Cramp, Wm. & Sons Ship & Eng. Bldg. Co.
Cronk, E. D. & A. F., Inc.
Connecticut Clock Co.
Continental Motors Corp.
Curtis Pneumatic Mach. Co.
Detroit Pressed Steel Co.
Dewey, George W.
Dixon, Jos., Crucible Co.
Doehler Die-Casting Co.
Dorr-Miller Differential Co.
Duff Mfg. Co.
Dunham Co., Thomas
Detroit Steering Wheel Corp.
E. A. Laboratories, Inc.
Eastern Rubber Co.
Eclipse Machine Co.
Eisemann Magneto Co.
Electric Storage Battery Co.
English & Mersick Co.
Ericsson Mfg. Co.
Essenkay Products Co.
Essex Rubber Co., Inc.
Fairbanks Co.
Faw, Inc., J. H.
Fire-Gun Mfg. Co., Inc.
Fleckenstein Visible Gasometer
Fulton Co.
Gabriel Mfg. Co.
Gastine Co.
General Electric Co.
Globe Mfg. Co.
Gould Storage Battery Co.
Gray & Davis, Inc.
Guarantee Visible Measure Sales Co.
Hale & Kilburn Co.
Hart-Bell Co.
Hartford, Inc., Edward V.
Harvey Wheel Sales Co.
Hassler, Robt H.
Hayes Wheel Co.
Heinze Electric Co.
Hill-Smith Metal Goods Co.
Holmes, George L.
Houpert Machine Co.
Hoyt Elec. Instrument Co.
Hudson Motor Specialties Co.
Improved Gauge Mfg. Co.
Inland Machine Works
Iron City Products Co.
Jiffy Jack Co.
Johnson Auto Lock Co.
Johnston Mfg. Co., Wm. R.
K-W Ignition Co.
Kales Stamping Co.
Kellogg Mfg. Co.
Keystone Rubber Mfg. Co.
Klaxon Co.
Laidlaw Co., Inc.
La-Lo Chemical Co.
Lane Brothers Co.
LaVietes, Inc., Geo. E.
Lawrence & Co., L.
Lee Mercantile Co., H. D.
Lewis-Searing Co.
Light Mfg. & Foundry Co.
Lipmand Refrig. Car & Mfg. Co.
Longdin-Brugger Co.
Lyons Ignition Co.
McCord Mfg. Co.
McQuay-Norris Mfg. Co.
Macbeth-Evans Glass Co.
Manley Mfg. Co.
Marlin-Rockwell Corp.
Martin, James
Merritt Co., S. W.
Gill Mfg. Co.
Metal Stamping Co.
Midwest Engine Co.
Militor Corp.
Miller, Chas. E.
Morse Chain Co.
Moto-Meter Co.
Motor Car Supplies Co., Inc.
Motor Kleen Co.
Motor Spark Plug Co.
Mutty Co., L. J.
Muzzy-Lyon Co., Ltd.
Nathan Novelty Mfg. Co.
National Carbon Co.
National Clutch Co., Inc.
National Tube Co.
National Wire Wreel Works, Inc.
New Era Spring & Spec. Co.
New York Coil Co.
Nobrac Co.
Northwestern Chemical Co.
Pantasote Co.
Parry Mfg. Co.
Perfection Heater & Mfg. Co.
Perkins Tonneau Windshield Co.
Phelps Mfg. Co.
Pines Mfg. Co.
Powrlok Co.
Pratt Mfg. Co, Wm. E.
Prest-O-Lite Co.
Primolite Sales Co.
Radcliffe Turbin-Drive Co.
Rajah Auto Supply Co.
Reliance Wheel Co.
Republic Auto Parts Co.
Rex Mfg. Co.
Rich Mfg. Co.
Rives Mfg. Co., Geo. H.
Rockwell Mfg. Co.
Saltsman Co., DeWitt G.
Schrader's Son, Inc., A.
Schutte Body Co., Chas.
Sears-Cross Co.
Security Auto Theft System
Sedgwick Sales Co.
Shaler Co., C. A.
Shontz Co., Inc., H. B.
Silvex Co.
Simms Magneto Co.
Snead & Co. Iron Works, Inc.
Sparks-Withington Co.
Special Tool Engineering Co.
Spencer Metal Products Co.
Spiro Mfg. Co., C.
Splitdorf Electrical Co.
Stanley Co., John T.
Stewart Mfg. Co., F. W.
Stewart-Warner Speedometer Corp.
Story Rubber Co.
Stromberg Motor Devices Co.
Sunderman Corp.
Superior Lamp Mfg. Co., Inc.
Thomas, C. B.
Titeflex Metal Hose Corp.
Tonneau Shield Co., Inc.
Trexler Co.
Triplex Safety Glass Corp.
United Mfg. & Distributing Co.
U. S. Air Compressor Co.
U. S. Light & Heat Corp.
Unity Lap Robe Mfg. Co.
Universal Shock Eliminator, Inc.
Utilities Sales Corp.
Vacuum Oil Co.
Van Sicklen Speedometer Corp.
Vaporizer Utilities Sales Corp.
Veeder Mfg. Co.
Wallace Mfg. Co.
Waltham Watch Co.
Warner-Patterson Co.
Wasson Piston Ring Co.
Weaver Mfg. Co.
Weston Electrical Inst. Co.
Wheeler-Schebler Carburetor Co.
Whittington Mfg. Co.
Wildenberg Bros.
Willard Storage Battery Co.
Williams Co., J. H.
Wilson, K. R.
Wire Wheel Corp. of America
World Mfg. Co.
"X" Laboratories
Yale & Towne Mfg. Co.
Zenith Carburetor Co.

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turers the annual display took place in Madison Square Garden and 69th Regiment Armory.

Well on the way to normal conditions with factories producing at the rate of 2,000,000 cars a year and demand far exceeding supply at that, the industry this year will celebrate its Twentieth birthday in a big "double-header" show.

Highway Transport Conference

THAT the Highway Transport Conference, to be held in conjunction with the National Motor Truck Show in New York will be most comprehensive and important, is indicated by the list of subjects to be discussed and of those who have accepted invitations to speak.

The feature of the Conference sessions will be the liberal use of illustrations, both in the nature of stereopticon slides and motion picture films. An added feature will be motion picture shows, lasting a half-hour or more, and following the sessions, each afternoon and evening. For these "movies" a large number of films, dealing with motor transportation in all of its varied phases, are being collected. Several are being secured from abroad. Dr. Francis Holley, director of the Bureau of Commercial Economics at Washington, is co-operating in collecting interesting films having to do with highway transportation by motor vehicles.

The conference will open on the evening of January 3. Among those who will speak at the Highway Transport Conferences on subjects having to do with highways and highway traffic are Arthur H. Blanchard, professor in charge of Highway Engineering and Highway Transport, University of Michigan and president of the National Highway Traffic Association; F. G. Thompson, highway engineer, State of New Jersey; M. O. Eldridge, director of roads, American Automobile Association; Harry S. Quine, Goodyear Tire & Rubber Co.; Robert C. Hargreaves, Goodrich Tire & Rubber Co.; Pyke Johnson, secretary of Highways Committee, National Automobile Chamber of Commerce; George C. Diehl, chairman of Good Roads Board, American Automobile Association; J. E. Pennypacker and S. M. Williams, chairman of the Federal Highway Council.

MOTOR TRUCK INDUSTRY DESTINED TO BE TREMENDOUS.

Without the slightest doubt the motor truck industry of today is small as compared with what it is going to be within a very few years. Many factors enter into this prediction. These include the great road-building program, the inauguration of great motor truck fleets for rural collection of and delivery of merchandise in the country districts, the motorizing of the farms, store-door delivery in every section of America and systematic operation of motor trucks in freight hauling, replacing the slower freight transportation.

Estimates show that more than 600 motor express lines will soon be in operation. Use of the motor truck in this field and the missionary work accomplished in this manner creates a market steadily. Building of good roads and consequent quick transportation assists the people of the country districts, while city merchants are enabled to increase the radius of their deliveries and so add materially to their business. So steadily has the freight delivery by motor truck grown in America that railroads are feeling the pressure, although during the war the truck was welcomed as a relief in times of congestion. In many sections of America even now more freight is hauled by motor truck than by railroad train, and this business is growing amazingly.—Roy S. Davey, Sales Mgr. Bethlehem Motors Corp.

Authorities on motor express operation, including intercity motor haulage and rural motor express, who will speak at the Conference, include Tom Snyder, secretary of Highways Transport Division, Indianapolis Chamber of Commerce; Professor Boyle, of Cornell University; J. D. Eggleston, chairman of Highways Transport Committee of Iowa; F. W. Renn, secretary of Motor Truck Committee National Automobile Chamber of Commerce; E. E. Peake, secretary of Kansas City Motor Car Dealers' Association; George D. Wilcox, of Commerce Motor Truck Co., and E. A. Williams, Jr., of the Garford Motor Truck Co.

The various subjects having to do with the actual operation of motor trucks, especially from the standpoint of efficiency, will be discussed by such well-known authorities as W. J. L. Banham, general traffic manager of the Otis Elevator Co.; Roderick Stephens, of the Stephens Fuel Co.; George H. Pride, president of Heavy Haulage Co.; W. P. Kennedy, transportation engineer; Joseph Husson, editor of Commercial Vehicle; Walter Wardrop, editor of Power Wagon; George W. Veale, of Timken-Detroit Axle Co.; Ralph C. Rognan, president of Service Managers' Association of New York; H. E. Merithew and H. W. Drew, transportation experts of the Packard Motor Car Co.; T. M. Knight, of Armour & Co.; E. E. LaSchum, general superintendent of the American Railway Express Co., and Walter M. Ladd, service manager of the Pierce-Arrow Motor Car Co.

Farmers' motor haulage problems will be discussed at the Conference sessions by men who have qualified in this particular field, including Senator Capper, of Kansas; A. R. Kroh, of the Goodyear Tire & Rubber Co.; E. T. Meredith, publisher of Successful Farming, and Raymond Olney, editor of Power Farming.

Among those prominent in the motor truck industry who are on the Conference speakers' list are F. W. A. Vesper, president of the National Automobile Dealers' Association; Robert O. Patten, truck sales manager of Pierce-Arrow Motor Car Co.; J. W. Allen, Eastern branch manager of Service Motor Truck Co.; David C. Fenner, of International Motor Co.; Ray Sherman, editor of Motor World, and half a dozen or more dealers from various parts of the United States, who have achieved unusual successes in marketing motor trucks. Included are men who are successful in selling what might be termed complete motor transportation, including motor trucks, trailers, passenger cars and aircraft.

One of the most vital phases of motor transportation at this time is that generally classed under the heading legislation. Among the speakers on this particular subject are Charles Thaddeus Terry, counsel to the American Automobile Association, National Automobile Chamber of Commerce and other organizations; Charles S. Bond, counsel for the Motor Truck Association of America; Harry Meixell, Jr., secretary of the Legislative Committee, National Automobile Chamber of Commerce, and F. H. Hertsman, executive secretary of the Motor Truck Owners' Association.

It is evident that the conference will have a vital bearing on the motor truck industry.

The program of the Conference provides for an inaugural session on the opening night, when the speakers will be men of national prominence, and the general subjects of highways and motor transportation will be discussed in a broad way, with special reference to the economics involved. During the remaining six days ses-

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Motor Truck and Accessories Exhibitors at the 20th National Automobile Show in the 8th Coast Artillery Armory, New York City

MOTOR TRUCKS.

Acason Motor Truck Co.
Acme Motor Truck Co.
American Motor Truck Co.
Armleder Sales & Service Co.
Atterbury Motor Car Co.
Autocar Co.
Bethlehem Motors Corp.
Brockway Motor Truck Co.
Clydesdale Motor Truck Co.
Commerce Motor Car Co.
Corbitt Motor Truck Co.
Commercial Car Unit Co.
Commercial Truck Co. of Amer.
Denby Motor Truck Co.
Diamond T Motor Car Co.
Maxwell Motor Co.
Nash Motors Co.
Olds Motor Works
Oneida Motor Truck Co.
Packard Motor Car Co.
Paige-Detroit Motor Car Co.
Pierce-Arrow Motor Car Co.
Rainier Motor Corp.
Reo Motor Car Co.
Republic Motor Truck Co.
Rowe Motor Mfg. Co.
Sandow Motor Truck Co.
Sanford Motor Truck Co.
Schact Motor Truck Co., G. A.
Schwartz Motor Truck Co.
Selden Truck Corp.
Standard Motor Truck Co.

TRAILERS.

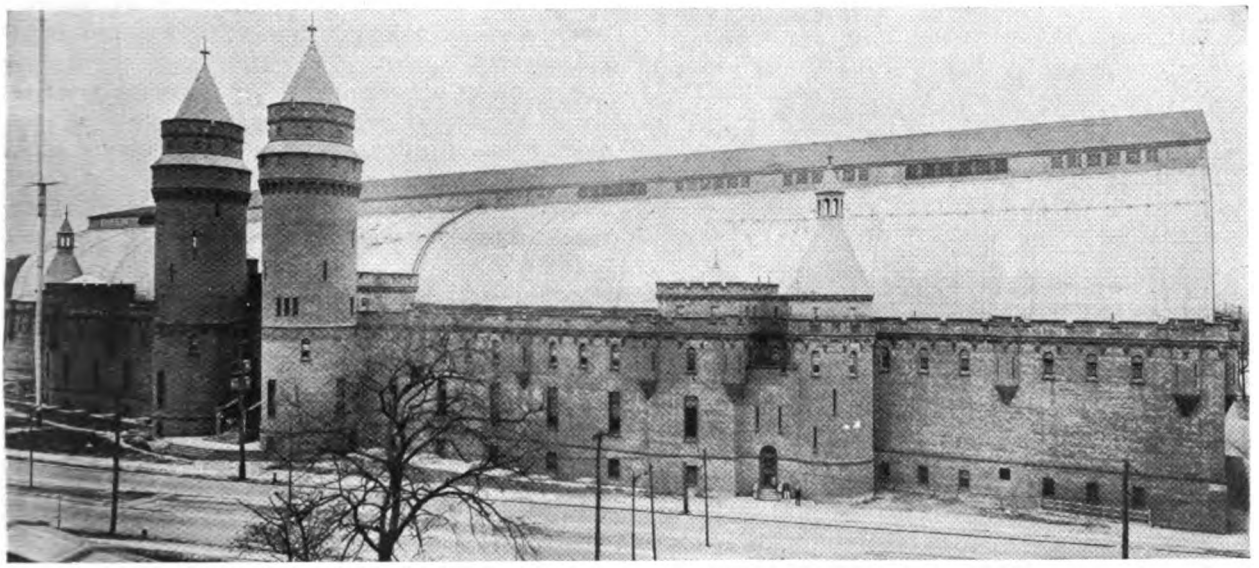
Hayes-Diefenderfer Co., Inc.
Warner Mfg. Co.

BODIES.

Metropolitan Body Co., Inc.
Parry Mfg. Co.

ACCESSORIES.

Af-Ford-Able Sales Co. of N. Y., Inc.
Aluminum Brazing Solder Co.
Aluminum Castings Co.
American Bosch Magneto Corp.
American Chain Co., Inc.
Flint Motor Axle Co.
Franklin Machine & Tool Co.
Gray & Davis, Inc.
Hercules Motor Mfg. Co.
Hero Mfg. Co.
Horizontal Hydraulic Hoist Co.
Houpert Machine Co.
Hudson Motor Specialties Co.
Humil Corp.
Jaxon Steel Products Co.
Lauraine Magneto Co.
Lobes Body Co., Inc.
Mead-Morrison Mfg. Co.
Merchant & Evans Co.
Minneapolis Steel & Mach. Co.
Motor Compressor Co.
Pantasote Co.



8th COAST ARTILLERY ARMORY, NEW YORK CITY, WHERE NATIONAL MOTOR TRUCK SHOW WILL BE HELD.

Dodge Brothers
Dorris Motor Car Co.
Federal Motor Truck Co.
Four-Wheel-Drive Motor Truck Co.
Garford Motor Truck Co.
Gramm-Bernstein Motor Truck Co.
Huffman Bros. Motor Co.
Indiana Truck Corp.
International Harvester Corp.
Jackson Automobile Co.
Nelson Motor Truck Co.
Kelly-Springfield Motor Truck Co.
Kissel Motor Car Co.
Koehler Motors Corp., H. J.
Master Trucks, Inc.
Sterling Motor Truck Co.
Stewart Motor Corp.
Sullivan Motor Truck Corp.
Trailmobile Co.
Transport Truck Co.
Three-Point Truck Co.
Triangle Motor Truck Sales Co.
Turnbull Mot. Truck & Wag. Co.
Union Motor Truck Co.
Velie Motors Corp.
Vim Motor Truck Co.
Maccar Truck Co.
Walker Vehicle Co.
Walter Motor Truck Co.
Ward Motor Vehicle Co.
Ward-La France Truck Co.
Wilson Co., J. C.
Winther Motor Truck Co.
American Machine Co.
American Taximeter Co.
Apollo Magneto Corp.
Arrow-Grip Mfg. Co.
Baush Machine Tool Co.
Bendus, J. V.
Buda Co.
Byrne, Kingston & Co.
Challoner Co.
Clark Equipment Co.
Commercial Investment Trust
Continental Motors Corp.
Dayton Steel Foundry Co.
Dixon Crucible Co., Jos.
Duplex Engine Governor Co.
Eastern Machine Co.
Eisemann Magneto Co.
Empire Axle Co.
Parker Axle & Products Corp.
Parry Mfg. Co.
Robertson Cradlelock Wheel Co.
Russell Motor Axle Co.
Schrader's Son, Inc., A.
Service Engineering Co.
Sewell Cushion Wheel Co.
Splitdorf Electrical Co.
Standard Steel Castings Co.
Stromberg Motor Devices Co.
Torbensen Axle Co.
U. S. Specialty Co.
Vacuum Oil Co.
Vaporizer Utilities Sales Corp.
Wellman-Seaver-Morgan Co.
West Steel Casting Co.
Wheeler-Schebler Carburetor Co.
Wisconsin Motor Mfg. Co.

sions will be held in the afternoons, primarily intended for those engaged in motor truck business, including manufacturing, distribution and service, and in the evenings, primarily for motor truck owners, operators and for shippers and any others interested in motor transportation. All sessions are open to the general public and everyone is cordially invited. On the closing day of each show there will be a single joint session in the afternoon.

Among the subjects to be discussed during the show are:

AFTERNOONS.

Monday, January 5—"Merchandising Motor Trucks."
Tuesday, January 8—"Smoothing the Path of the Motor Truck."
Wednesday, January 7—"Selling On the Firing Line."
Thursday, January 8—"In the Matter of Service."
Friday, January 9—"Selling Motor Transportation."

EVENINGS.

Monday, January 5—"Motor Vehicles in Passenger Transportation."
Tuesday, January 6—"Increasing Motor Haulage Efficiency."
Wednesday, January 7—"Rural Motor Express."
Thursday, January 8—"Aids to Motor Truck Efficiency."
Friday, January 9—"Motor Truck and Railroad Freighting."
Saturday, January 10—"Highways and Motor Transport."

Dinners scheduled by departments of the National Automobile Chamber of Commerce during national show week in New York include the Rubber Association of America, at the Waldorf, January 5; the N. A. C. C. C. annual banquet, at the Commodore, January 6; Motor and Accessory Manufacturer's Association, at the Commodore, January 7; and S. A. E. dinner, Astor, January 8.

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Motor West
THE MOTORING AUTHORITY OF THE PACIFIC COAST

Established 1907

AN ILLUSTRATED AUTOMOBILE MAGAZINE OF QUALITY, ISSUED SEMI-MONTHLY.

Published by
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JANUARY 1, 1920

It Pays to Take Time to Read

AS TO salesmen: One of the most energetic, successful sales managers of an automobile company, a few years ago, became such through having formed the habit, when a cub salesman in a retail bicycle store, of diligently reading every catalog of a competitor he could lay hands on, as well as studying competitors' products. At the shows he was a catalog fiend, even after he had risen from the ranks.

As to automobile owners—in fact, as to all users of anything, including retailers and shop men: Read and you will know. Do not read and you will not know. The difference will be expressible in many dollars. We have nothing at hand to prove this, as to automotive practice, but here's something about cows:

A cow tester had 28 members in his association, 14 of whom read farm papers. Their herds showed a net profit of $33.40 per unit. The herds of the other 14 showed only $21.46. Difference in dollars, $11.94, or $358.20 per year on a herd of 30 cows. A pretty fair return on the slight investment necessary to read a cow paper. "Motor West" isn't a cow paper, but the principle is good. The slight investment is all that's necessary to make the principle work.

$2,000,000,000 Needed for Roads

A STATEMENT by the United States Department of labor is that it is possible to build a hard surfaced highway system of 50,000 miles, so located as to serve directly 46 per cent of all the counties in the country, and indirectly 41 per cent of all other counties. It would serve 87 per cent of the country's population. The other 13 per cent could be amply served by tributary roads.

The cost, it is stated, would approximate $100,000,000 a year for 12½ years, a total of $1,250,000,000. Both the sum and the time can be only approximate, especially the former in view of constantly rising costs. At an average of $30,000 per mile, which is rather low even now, $1,500,000,000 would be required; not to mention overhead and maintenance expenses. It would be only reasonable to set the total at approximately $2,000,000,000, which would mean an expenditure of a little more than $2 per year for every inhabitant. This is little compared with the profit, which would greatly exceed the expenditure, soon after the beginning.

Fifty Million Tons a Day Carried

AS THE negro song would have it, the motor truck is rolling on to glory. The daily tonnage hauled by the motor truck of America is estimated at 50,000,000. It seems unbelievable, but very probably it is true. No wonder railway men are not putting up a prolonged fight against granting of permits to motor truck transportation lines, but are getting into the business themselves.

The real secret of the thing is flexibility. A motor truck, alone or pulling a train of trailers, can go where a railway train cannot.

It gives us opportunity to remark once more that the street car, as we know it today, ought to pass more quickly than it is passing. It lacks flexibility of movement. If the principle is good as to freight it is good as to humans. The sooner it is realized the more lives will be saved, the less congestion there will be, the better off everybody will be.

The Value of Air if Not Too Hot

AIR IS USED AND ABUSED. Hot air, employed in vocalizing, sometimes produces disastrous results. Of atmospheric elocutionists there is an over-plenitude. But sometimes the man who emits ideas vocabularically has something else in him, when it gets right down to brass tacks.

We don't know that old Doctor Dunlop, inventor of the pneumatic tire, was much of a talker; but there is reason to believe the stories that much of the comparatively little he said was at first laughed at; also, to believe that he laughed fairly well when he laughed last.

History tells us that the highway automobile, propelled by steam was the father of the railway locomotive and that it was legislated off the roads of England in 1830 because its wheels broke up the roads.

If Dunlop had not talked air tires, and tried them, and proved them in a small way, and been listened to and taken up by men of commercial vision, and if, even before him, a process of vulcanizing rubber had not been discovered, talked up and adopted, the automobile of 1830 might not have come to life again with a gasoline engine to move it, nearly sixty years later.

Make Use of the Newspaper Man

DON'T "ride" the newspaper man, as too many do. It don't pay, in the long run, to "ride" any man; but use him legitimately to the full, in a way that will enlist his interest. That is plain applied psychology and is, of course, involved with fair dealing.

We see where the owners of a motor stage line took the secretaries of several chambers of commerce on a ride over an alluring route. It paid. It would pay all stage and motor truck line operators to do this; and not to do it with newspaper men as guests is overlooking a bet.

Keep your heart warm and your motor relatively cool.

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Motoring Trip Over National Park to Park Highway

Being Last Installment of a Wonderful Story Telling Joys in Store for Automobilists Taking This Journey of 4000 Miles Over World's Greatest Scenic Road, Which Links Together Country's Most Marvelous Natural Beauties.

By GUS HOLM'S, President National Park to Park Highway Association.

IT IS NOW the 10th day of August, just the right time to make the wonderful Columbia River drive. Here we are attracted by a most wonderful road, and one cannot but see the benefit of better roads, for the Columbia River drive seems much too short. After the journey the traveler will still have memories of the river, the falls and bridges, which will bring him back again as soon as the road around grand old Mount Hood is completed. This, we understand, is on the way. This section of the trip, while not yet a National Park, is and remains an attraction never to be forgotten by those who motor over the National Park to Park Highway.

With many regrets, the party turns south, still on the Pacific Highway, and after a few days of easy driving reaches Medford, Oregon. Here the Crater Lake trip is started, and we find the Sea of Silence, justly so called by Joaquin Miller, a wonder of wonders, with the grandest of charming and magnificent scenery.

The outward trip is made via Klamath, east and south, and a swing through a very attractive country again brings us to the Pacific Highway, on our way south we have passed Mount Shasta, and later have left the highway at Redding, Calif. From here a side journey must be made to Lassen National Park, for the party cannot afford to miss this trip to the only living volcano in the United States. We consider it an opportunity of a lifetime to view this wonderful region.

Returning by way of Redding, Calif., we again turn south through many wonderful sections of the Golden State, until Sacramento is reached. The trip thence to Merced, where the road turns in to the Yosemite Park, would be incomplete without a visit to Oakland and San Francisco and the surrounding cities. In this neighborhood there are two or more National Monuments, equally as attractive as any of the National Parks, only much smaller.

The party now finds itself entering the Yosemite Park on the 27th of August and we understand there is no better time of the year to visit this wonderful park, which is so well known that there is little the writer may say about it. It is becoming very popular as a winter sports resort, as well as a summer playground.

After inspecting Yosemite and its many wonders it is advisable for the party to back-track and again reach the Pacific Highway at Merced, turning south through many attractive cities, including Fresno, to Visalia, where starts the trip to the Sequoia and General Grant National Parks, —the big tree parks. We understand there is a movement on foot to combine and enlarge these parks, possibly to change the name to Roosevelt National Park. There is

ROAD IN THE OREGON NATIONAL FOREST, WITH SNOW-CAPPED MOUNT HOOD IN THE BACKGROUND.

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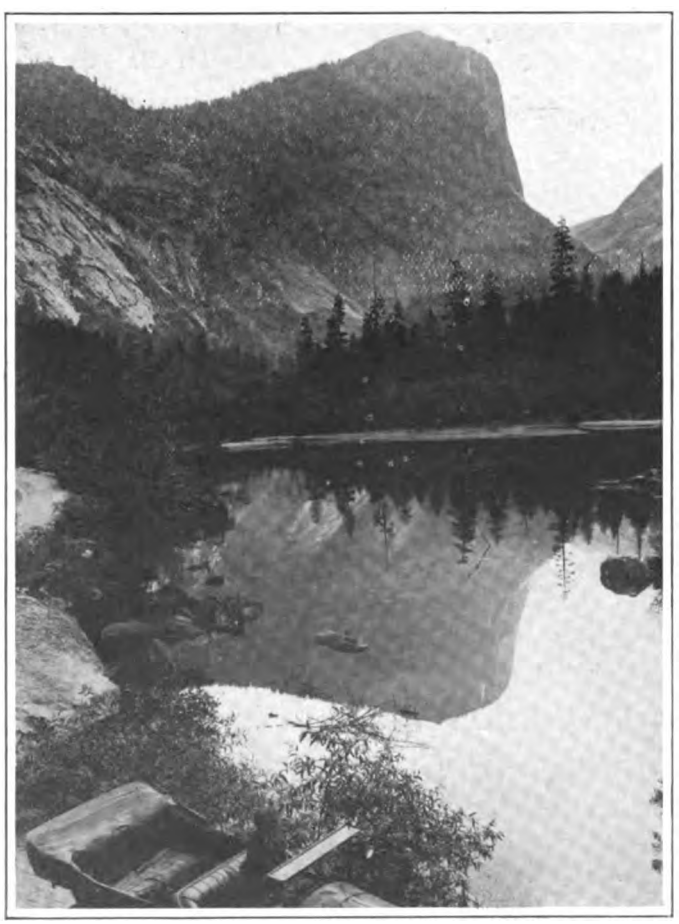
TIOGA PASS CAN EASILY BE NEGOTIATED BY THE AVERAGE CAR, AS THE ROAD IS FAIR AND GRADES EASY.

no other park that offers such inducements for campers as this specimen of God's handiwork. John Muir figures that some of these are more than 4000 years old!

The party here may find it advisable to stay a while because the return trip through Arizona and New Mexico is a trifle early and likely to be hot, and we find ourselves leaving the park on the 10th of September, the way we came in, for a trip to Los Angeles and San Diego, where we enter Arizona over the Santa Fe Trail. Upon reaching Williams, the party turns northward toward the Grand Canyon National Park, of which Theodore Roosevelt said: "It is beyond comparison, beyond description, absolutely unparalleled throughout the wide world."



MIRROR LAKE, SHOWING HALF DOME IN BACKGROUND.

I had the extreme pleasure of viewing the Grand Canyon some years ago, and I have longed to get back to it. I read with interest everything I can find concerning it, and I hope that no cataclysm of Nature will ever destroy this tremendous cavity before I get an opportunity of viewing it once more.

Having surfeited our senses with the many wonders, the party turns to the trail again at Flagstaff and our next stop is the Petrified Forest, a little to the south of the trail, but within easy reach. No one should overlook this wonderful National Monument.

After some difference of opinion as to which way to go, the route north is decided on, and at Gallup we turn toward Colorado. After reaching Durango we journey to the Mesa Verde National Park, which is known as the Cities of the Past. Near by there are a number of National Monuments that will some day be connected with a good road. South in Arizona there is one more National Park and some Monuments, and New Mexico also claims some Monuments and boasts a proposed National Park.

The balance of the trip back to the starting place is over some most attractive mountain drives, via Pueblo and Colorado Springs, with its Garden of the Gods and Pikes Peak, which has an excellent road to its summit.

It is well to note that it is possible to travel this entire Park to Park Highway and finding good hotels and garages, and that in doing so the traveler passes through nine of the larger cities of the United States, visiting eleven National Parks. There are also at least seven proposed National Parks, and the route as planned offers an opportunity to visit, by short side trips, no fewer than twenty-three National Monuments. Could anything be more attractive?

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A look at the map will at once display the fact that the National Park to Park Highway does not interfere with the routing of any of the transcontinental highways, but rather that it assists them.

Batchelder, of the A.A.A., said to the writer once: "We are working for the same thing, only we have different ways of doing it. You furnish the show and we will furnish the people." So we may say to the advocates of the various transcontinental highways: "You furnish the highways and we will furnish the attractions." In that way we assist them in creating a demand for better roads. There is a crying need for a routing of this kind, had we had the Park to Park Highway in operation for three years past, the Pacific Coast States would have seen many more tourists, and would have benefited proportionately.

Since the beginning of this article, Stephen T. Mather, Director of National Parks, has held a meeting in Denver, where extensions of parks were thoroughly discussed and there are at least three new parks to be established, some that have been passd upon and others that are to be asked for. This would seem to be only a beginning of the requirements, as there is a desire by the Park Service to establish in the West as many playgrounds of scenic attractions as may be found advisable. There is a general movement on foot throughout the country to discourage advertising tourist attractions in foreign countries and the touring companies that insist on doing so are going to come to grief. The National Parks of the United States are to be made the attractions of the world, and if this is the case I feel that there must be at least one good highway connecting all of these parks, and hope that when the time comes to place this most important matter before the people, it will be received in the spirit in which it it intended.

MULTNOMAH FALLS, ON THE WONDERFUL COLUMBIA HIGHWAY.

Entry Blanks Out for 1920 Indianapolis Sweepstakes

The opening gun for the seventh international 500-mile race on the Indianapolis Motor Speedway, Monday, May 31, 1920, was fired with the mailing recently of more than 200 entry blanks to possible and prospective contestants among automobile manufacturers and private racing enthusiasts in the United States and various countries of Europe.

The 1920 race will be the first to be held under the new Speedway rules limiting competition to cars of 183 cubic inches piston displacement, and accordingly looked forward to with unusual interest both in the United States and abroad.

Since preliminary conditions for the race were announced some time ago, modifications have been made lowering the

QUIET GRANDEUR OF FIRE-GLAZED CLIFFS OF CRATER LAKE AND COLORINGS OF WATER INSPIRE THE BEHOLDER.

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THE easiest and quickest way to repair leaks in radiators, pumps, hose connections, etc., is with Johnson's Radiator Cement. It will stop leaks immediately without laying up the car—no mechanical experience required—all you have to do is remove the cap and pour the Radiator Cement in the radiator.

JOHNSON'S RADIATOR CEMENT

Contains nothing which can clog or coat the cooling system and is absolutely harmless in every respect. It blends perfectly with the water until it reaches the leaks. Just as soon as it comes in contact with the air it forms a hard, tough, pressure-resisting substance which is insoluble in water and consequently makes a permanent seal. No tool kit complete without a can of Johnson's Radiator Cement. Will ordinarily seal leaks in two to ten minutes. A half-pint is sufficient for the average car.

JOHNSON'S
CARBON REMOVER

A dose of Johnson's Carbon Remover, the engine laxative, will cure 80% of engine troubles. It will increase the power of your car—improve acceleration—stop that knock—quiet your motor—save your batteries—cut down your repair bills—and reduce your gas and oil consumption.

JOHNSON'S
HASTEE PATCH

This is the ideal repair for tubes, casings and rubber goods of all kinds. No time, labor or heat required. A patch can be applied in three minutes and it's so simple a child can use it. Gives equally good results on a pin hole puncture or on a large blowout. Conveniently put up in strips.

JOHNSON'S
BLACK-LAC

With this preparation you can make your gray, dusty top and side curtains look like new. Fine for mohair, leather or imitation leather. Johnson's Black-Lac is unequalled for blackening fenders, rims, hoods, lamps—and, in fact, all worn metal parts. Prevents rust and keeps your car in a high state of repair.

Write for Booklet on "Keeping Cars Young"—it's free.

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Sterling TRUCKS

Announcement

Good Territory Open for Dealers

The Sterling Motor Truck Company *of* California

have opened a ***Factory Branch*** for the distribution of

Sterling Heavy Duty Motor Trucks

on the Pacific Coast

Sterling Value has been proved by fifteen years of successful **Truck Building**

Sterling Satisfaction is guaranteed by **Sterling** Service

Building now in Course of Construction at
12th and Mission Streets, San Francisco

weight limit for eligible cars from 1700 to 1650 pounds, and making right side drive optional instead of compulsory, left side steering now being permitted also.

The weight reduction was put into effect in order to make the Indianapolis racing rules conform with those for the Grand Prix de France, scheduled for Le Mans next fall, while the left side drive was admitted out of deference to American manufacturers who favored it for their cars.

Calendar of Coming Events

Jan. 3-10, 1920—New York National Automobile Shows (Passenger cars and trucks).

Jan. 8—First Aeronautical Exposition, Chicago, Ill.; Auspices Manufacturers Aircraft Assn.

Jan. 19-25—Oakland, Automobile Show, Civic Auditorium; Robert W. Martland, Mgr.

Jan. 21-25—Spokane, Wash., Second Progressive Automobile Show.

Jan. 24-31—Chicago National Automobile Shows (Passenger cars and trucks).

Feb. 9-14—Salt Lake City, Utah, Automobile Show, Bonneville Park.

Feb. 9-14—Kansas City, Mo., National Tractor Show.

Feb.—Seattle, Wash., Automobile Show.

Feb. 21-28—Fourth Annual Pacific Automobile Show, Auditorium, San Francisco, Cal.; G. A. Wahlgreen, Mgr.

Feb. 22—New Los Angeles Speedway, Beverly Hills, Opening Event.

Feb. 23-28—Portland, Ore., Automobile Show; M. O. Wilkins, Mgr.

March 2-6—Denver, Colo., Car and Truck Show.

March—Los Angeles, Cal., Automobile Show.

Cut No. 280 For Gasoline at the Curb

Money-Makers

Wayne Curb Pumps give you better profits because they are so well made that they last longer, serve better and are **always on the job** at the curb, for you and your trade. **Write for Bulletins 280MW. and 11MW.**

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711 Canal St. Ft. Wayne, Ind.
Sales Offices in All Large Cities
Representatives Everywhere

Wayne
Honest Measure Pumps

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Berry Spark Plug

Fuel Saving
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No points to adjust or burn off.

FRANCIS-STOLL COMPANY
1235 Van Ness Avenue,
SAN FRANCISCO, - CALIFORNIA.

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Bill, the NeighborHood Tire Expert, Talks About Satisfaction

"Bill, do these Hood Tires give good satisfaction?" was the way Fred Smith started talking.

"Did you ever hear of one that didn't?" I asked him.

"No," he says, "I can't say I have. But then it seems only a year or two ago that you started selling HOOD tires. Maybe I'll hear about some poor ones later."

"Maybe you will," says I. "In fact, I'm sort of hoping for a howl or two, myself."

"What do you mean?" asked Smith.

"Well," I replied, "most all the tires I've sold so far have rolled 14,000, 16,000 and even 18,000 miles and are still going strong. Looks as though they'd average 17,000 to 20,000 miles. Of course, every owner is telling about what wonderful mileage he's getting. That's just where the trouble's going to start."

"How so?" says Smith, "I think you oughta be glad to have 'em telling about the mileage they're getting."

"Oh, that part's all right," I answered. "But soon some fellow who never got more than 3500 to 5000 miles out of a tire is going to buy a Hood tire, expecting on the strength of what these boosters have told him, to get at least 20,000 and possibly 30,000 miles. And if by any chance that Hood gives him only 12,000 or 14,000 miles, he'll set up an awful howl."

"I don't believe his howl will hurt you much" says Smith.

"No, I don't think so myself," says I. "In fact I've been hoping for some time that some one would start hollering. Nothing could be more startling to those fellows who have been content with 3,500 to 5,000 mile tires, than to hear of a fellow hollering because he got only 12,000 or 14,000 miles."

"That's right, I guess," says Smith.

"You know it is," says I. "And if I remember, your car takes a 35x5. Am I right?"

"You are," says Smith, as he laid his check book on the counter and began shaking his fountain pen to start the ink.

Branch
San Francisco, Cal.
118 New Montgomery St.

Branch
Los Angeles, Cal.
1223 S. Olive Street.

Ask Bill at the Sign of the Hood Dealer. He Knows Tires

Canvas Rubber Leather HOOD FOOTWEAR

HOOD RUBBER PRODUCTS COMPANY

Cord Fabric Solid HOOD TIRES

Watertown, Mass.

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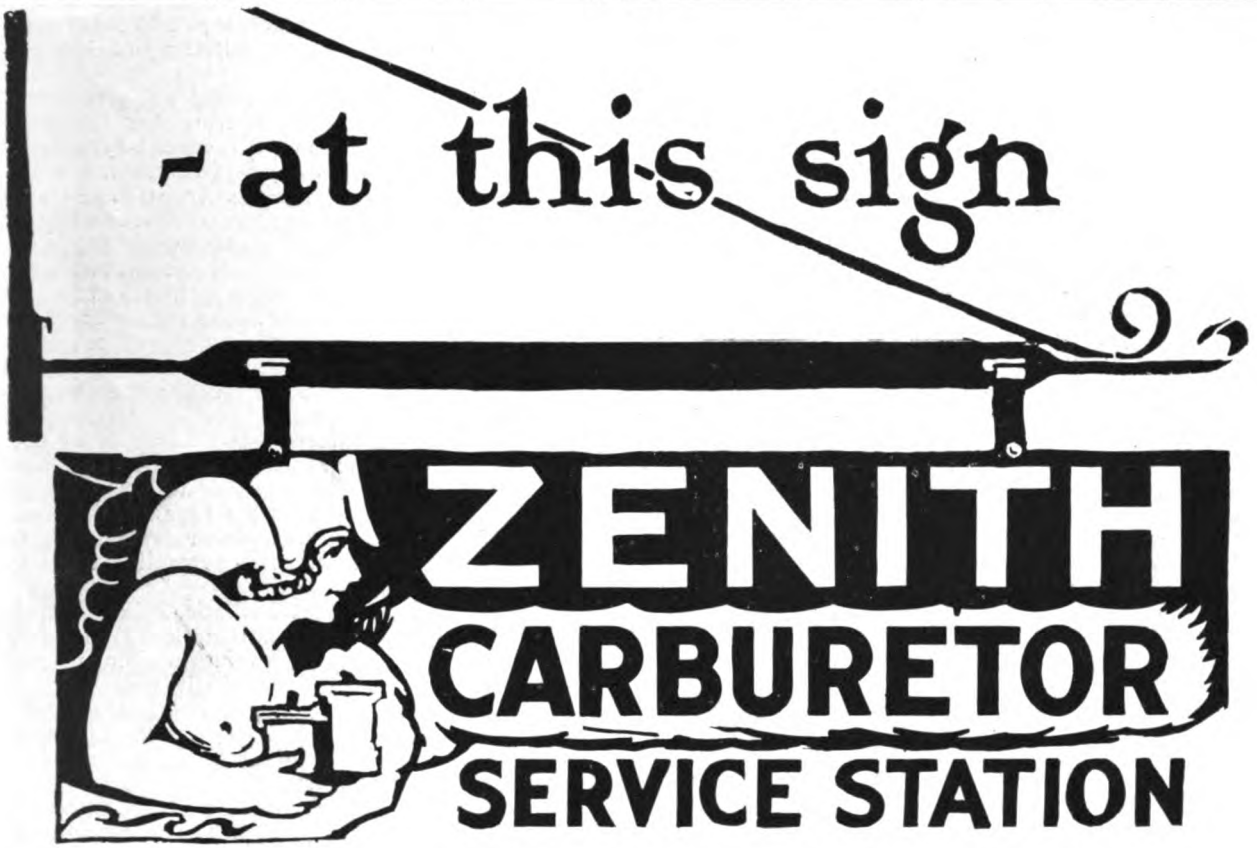

all carburetor troubles are permanently cured

Throughout California, Oregon, Washington and Nevada, in any of the leading cities and towns you will find a Zenith Carburetor Distributor, designated by the Service Station Sign pictured above.

This concern will gladly give you full and complete data and information on the Zenith Carburetor, it's principal, simple and non-adjustable features, greater economy and power, as applied to your **Automobile, Truck, Tractor, Motorboat** or **Aeroplane.**

Any motor will show greater performance and absolute freedom from adjustments if equipped with a Zenith. They are unaffected by altitude or climatic conditions. Once installed, your carburetor troubles permanently cease.

look-for-the-sign-install-a

ZENITH

If there is no Distributor, Dealer or Garage man handling ZENITH Carburetors in your city, communicate with any of the agencies listed below.

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SUNSET ELECTRIC CO.
1507 Broadway
SEATTLE
CHASE ENGINEERING CO.
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SPOKANE

OREGON
U. S. MANUFACTURERS SALES CO.
612-618 Pittock Blk.
PORTLAND

SOUTHERN CALIFORNIA
H. G. PENDELL
1257 Eighth St.
EAST LOS ANGELES

NEVADA
DELAY & OLIVER
25 Front St.
RENO

LATHAN AUTO SUPPLY CO.
SAN FRANCISCO, CALIFORNIA
Pacific Coast Distributors

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"The Californian" is With Us

First Model of Los Angeles-Built Car Makes Its Appearance—A DeLuxe Job From Tire to Top

A RUMOR to the effect that another high-grade passenger car will be produced in Los Angeles in the near future has persisted in coming up at frequent intervals throughout the last six months, but nothing of a definitely confirming nature was learned until the California Motor Car Corporation placed its signs on its factory building on North Alameda St., Los Angeles, a few days ago. The executives of the new company have worked quietly and effectively and, before making any formal announcement of their intentions to the public, all work in designing, building and testing out of their experimental cars had been completed, a factory had been leased, and the purchasing department of the organization had closed contracts with various parts manufacturers throughout the country for the entire first year's production.

The new home of the California Motor Car Corporation is located in the very heart of the industrial district of Los Angeles and almost within a stone's throw of the business center as well. The factory fronts on Alameda street, down which runs the main line of the Southern Pacific Railroad, and a convenient switch extending the entire length of the building greatly facilitates the handling of both incoming and outgoing freight. The building is a two-story brick structure comprising approximately 36,000 square feet of floor space, and is so designed that it can be laid out into a most efficient, modern assembly plant. There is also sufficient vacant property in the immediate vicinity of the plant to permit the company to expand in accordance with the growth of its business.

This new entrant to the field of motordom will be known as the "Californian," a name that will appeal strongly to Western buyers. The company will bring out two models on a standard chassis—a roomy, luxurious, seven-passenger touring car, and a snappy, clever, four-door, four-passenger "sport" job. Units entering into the construction of the chassis are uniformly standard high-grade parts that have been favorably known for years in the automobile industry. The company has followed the policy of buying as many parts in Los Angeles and on the Pacific Coast as possible, thereby effecting a material saving in freight costs, and at the same time benefiting small parts people of the West by giving them additional business. The new plant is being equipped to build bodies, tops and sheet metal parts, and will be provided with modern up-to-date enameling ovens.

A partial list of the specifications will give some idea of uniformly high-grade units entering into the assembly of the "Californian." The new Beaver six-cylinder valve-in-head motor, 3½-inch bore by 5-¼inch stroke, is backed up by such standard components as Brown-Lipe transmission and clutch, Gemmer steering gear, Spicer universals, etc. Cooling is by centrifugal pump, with automatic thermostatic control. Lubrication is a combination of force feed to main and cam bearings, splash to connecting rods and pistons, and rocker arms automatically lubricated from main oil feed line. Ignition is by magneto, and the Rayfield 1¼-inch carburetor, with side outlet, is bolted to the cylinder block. The Delco two-unit system takes care of the starting and lighting.

The "Californian" pressed-steel frame is of the bottleneck type, with a 5-inch kick-up in rear. The heavy floating type rear axle is of special design, with one-piece pressed-steel housing and Brown-Lipe spiral gears. Brakes equipment is especially sturdy and dependable, being internal expanding and external contracting on 18-inch hub drums.

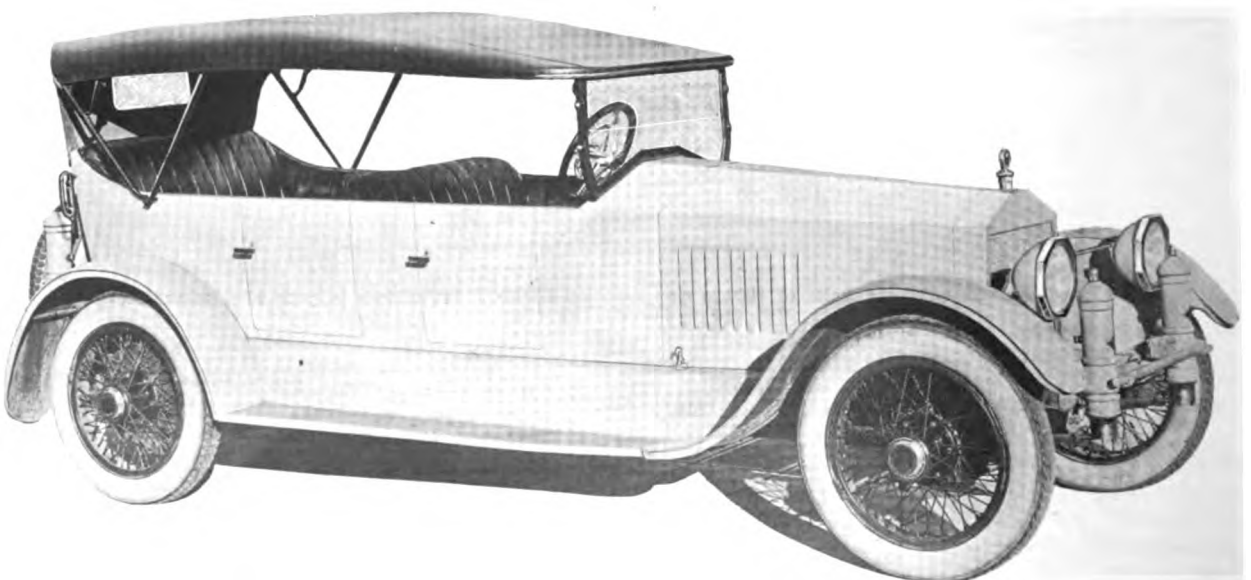
The front springs are semi-elliptic, 2¼x40¼ inches, with eight leaves, and the rear semi-elliptic, 2¼x54 inches, with ten leaves. The Gruss air spring equipment, both front and rear, is standard on the "Californian."

A 25-gallon gasoline tank is carried at the rear. Fuel is carried to the carburetor by means of the Stewart vacuum system. The tank is provided with a reserve valve holding approximately four gallons.

The wheel-base is 134 inches, and the tread 56 inches. Wire wheels are standard, and the tire equipment is 33x5 all around—cord-ribbed front, non-skid rear.

Besides the Gruss air springs, regular equipment includes such unusuals as two extra wire wheels, two extra 33x5 cord casings with tubes, Boyce Moto-meter, Kellogg tire pump, Warner speedometer, ammeter, storage battery meter on dash operated by push button and showing condition of battery, switch to prevent generator operating and charging battery when unnecessary, oil gauge, clock—besides all the usual equipment in the way of lighting and ignition switches, robe rails, tool kit, tire repair kit, jack, etc.

It is very evident from the above that the purchaser of this new product of the West will not be called upon for an additional outlay of money in order to bring his car to a desirable state of equipment and refinement. The company is prepared to give the purchasers of its car a color and upholstery option and can also permit them to choose between a one-man folding top and the "California" sta-



STYLE, ELEGANCE AND COMFORT MANIFEST IN EVERY LINE OF THE LOS ANGELES-BUILT "CALIFORNIAN."

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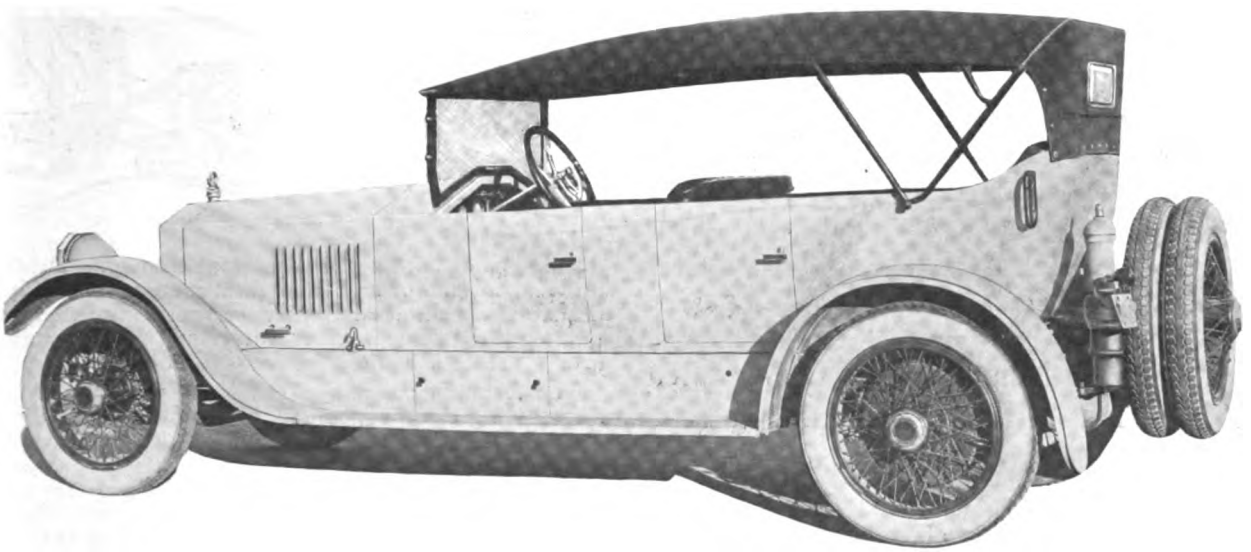
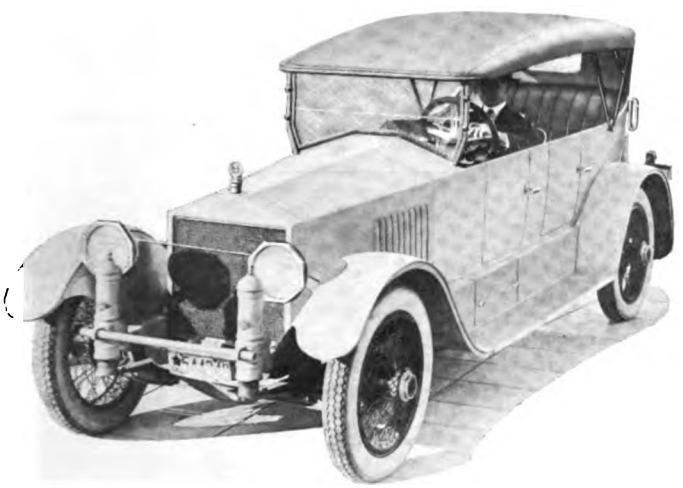


ANOTHER VIEW OF "THE CALIFORNIAN" SHOWING THE EXTRA TIRE CARRIER AND GRUSS AIR SPRINGS.

tionary top, that has of late grown to be so popular among Western motorists.

The new corporation is well fortified with experienced automobile men who have undergone a thorough course of training in the East before coming to the Coast. Edward M. Lawrence is in charge of the production and purchasing departments. Robert J. Schefferly has charge



THREE-QUARTER FRONT VIEW OF "THE CALIFORNIAN."

of the engineering department, and Allison L. Tull is director of sales and advertising. Mr. Schefferly was formerly employed as chief engineer for the Studebaker Corporation, and later in the same capacity with the Wichita Falls Motor Co. Mr. Lawrence and Mr. Tull were, until reecntly, employed in similar capacities with the Elgin Motor Car Corporation. Mr. W. W. Griffing, a former Eastern automobile distributor, and Dr. W. D. Hamaker, president of the McCloskey Tool Company, Meadeville, Pa., are also active members of the organization.

The fact that this organization of Eastern men selected Los Angeles as a site for their new enterprise is only additional and confirming evidence that the industrial future of the Coast is assured, and emphasizes the point that this section offers numerous inducements to manufacturers that cannot be found elsewhere in the country.

Two Automobile Shows in New York Jan. 3-10

During the week of the Palace Automobile Show in New York City, Jan. 3-10, 1920, a separate and independent exposition of automobiles and accessories will be held in the Armory of the Sixty-ninth Regiment at Lexington Ave. and Twenty-sixth St.

This exposition will be conducted for the benefit of the independent manufacturers and those in the trade who have been unable to secure space at the Palace Show.

Admission will be complimentary, through tickets distributed through the exhibitor, dealer, garage owner, hotels and by mail to registered car owners within a 100-mile radius of New York City.

Motorists are cautioned to exercise care in the use of tire talc, as too much is fully as damaging as too little. Too free use of tire talc—a special prepared soapstone for tire use—will cause a quantity of the powder collecting in one place, generate heat, give the tube a soft and bubbly appearance and form a weak spot.

ROEDDING SIGNAL TAIL LIGHT TRADE MARK

Warns The Man Behind—

Button Attached To Steering Wheel Flashes All Signals

Says either: STOP LEFT RIGHT BACK

The ROEDDING is operated by regular car battery and is dependable Night or Day, Rain or Snow. Thousands are being used by motorists who now wonder how they did without—and ROEDDING demand is constantly increasing. Write for Dealer's proposition at once.

Grand Rapids Brass Company
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Pacific Coast Representative
J. H. SMITH SALES COMPANY
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The Car of Commerce

Truck Terminal is Success

"Experiment" in Minneapolis Working Great Improvement in Commerce; Example is Being Followed Elsewhere

AS THE EAST should look to older Europe for data in some—not all—lines of development, so we in the West must look eastward. This reference is to the development of the motor truck.

Minneapolis has a central ship-by-truck terminal, in the heart of the wholesale district. Ten companies operate from it in a 100-mile radius. Vast quantities of cream, butter, eggs and potatoes are brought in. Furniture, farm machinery, groceries and other necessities are taken out.

Much that is brought in would otherwise be wasted on the farms. Much that goes out would remain in. The new idea, worked either way, is good for both ends; worked both ways, is much better yet. The terminal also is the central distributing point for many parts of Minneapolis itself.

Truck makers and operators and farm experts throughout the Northwest are watching the "experiment" with great interest and new operators are entering the business of hauling every week. It is expected that next spring will see a network of motor truck routes connecting the Twin Cities with practically all larger places in Minnesota. Wholesalers and other large shippers are giving the idea hearty support, delivering their individual loads at the central platforms, where they are sorted and distributed to the various routes. Quickly they are on their way.

The company operating the central terminal is incorporated for $100,000. It is at present charging a flat rate of 5 cents per 100 pounds for its service, which includes obtaining new business for truck operators, making collections and taking care of bookkeeping. Drivers are directed to take orders from rural merchants for anything needed from wholesalers. These are transmitted through the terminal company. A surprisingly large number of orders are thus turned in.

The terminal company's small charge is found to be a large saving to all concerned, in actual expenditure as well as in time. The wholesalers find it much more economical than sending their own motor trucks into the country, or through the city for pick-ups. The prevailing rates for truck shipment are little more than by rail. Boxing or crating is eliminated and from two to seven days' time is saved. Damage in transit is minimized.

GIRL TAKES TRANSPORT ORDERS BY AIR ROUTE.

Bohn & Cadlole, dealers in Transport trucks at Stockton, Cal., recently adopted the air-route method of order delivery. The orders are sent from Stockton to San Francisco—a matter of 85 miles—"in less than no time." The California Olympian Co., Transport distributors at San Francisco, have the orders before they would get to the stamp-canceling machine in the ordinary method of sending them by mail. The picture shows P. W. Vickerson, president of the California Olympian Co., receiving the order. He has neglected or forgotten or refused to introduce the young aviatrix to us, so we regret that we cannot give her name.

Report on General Motors Concentration

It is said that for eighteen months at least the motor truck plant of General Motors in Pontiac, Mich., will have all it can do to meet demand, and that no removal of the plant in that time would be possible. Nevertheless, a report above the plane of rumor is that eventually the corporation's motor truck plant will be in Detroit, in accordance with a plan of concentrating energies there. The unconfirmed report is that a new truck factory to be erected in Detroit on land acquired in 1915 from the Cadillac company; that it will be 1800 by 360 feet, mostly two stories, of 1,300,000 square feet area; that plans have been accepted and that ground will be broken soon.

Oneida Adds Electric Truck

The Oneida Motor Truck Co., of Green Bay, Wis., will add an electric truck to its previous line of five gasoline truck models. The company believes in giving the prospective purchaser the widest possible range of selection. Electric-driven trucks are considered by them to be excellently adapted to short-haul work, and so the new truck was added. Details have not yet been given, but the economies claimed for the Oneida electric have been under test by the American Railway Express Co. On short-haul work the saving in power due to eliminating starting and stopping gives the electric vehicle an advantage over the gasoline truck, they believe.

Bethlehem to Make 8000 Trucks a Year

At present Bethlehem Motors Corporation is manufacturing trucks at the rate of 3,500 to 4,500 per year, but within six months the company will be manufacturing on a basis of 8,000 trucks annually. Unfilled orders on hand call for more than 3,000 trucks, and this, with a steadily increasing business, resulting from the growing demands of the country for trucks, coupled with the corporation's aggressive sales campaign, promises to place the company in an enviable position. Most of the coming year will be required, it is reported, to catch up with the bookings and the certain business resulting from aggressive salesmanship.

We Are Much Better Off Than Europe

Lieut. Beckwith Havens, of the export department of the Denby Motor Truck Co., back from Europe, says that no matter what their output, makers over there are limited to railroad shipments of a limited number of pounds daily. There is a trying lack of coal and food; a hard winter ahead; yet reconstruction is progressing on a stupendous scale.

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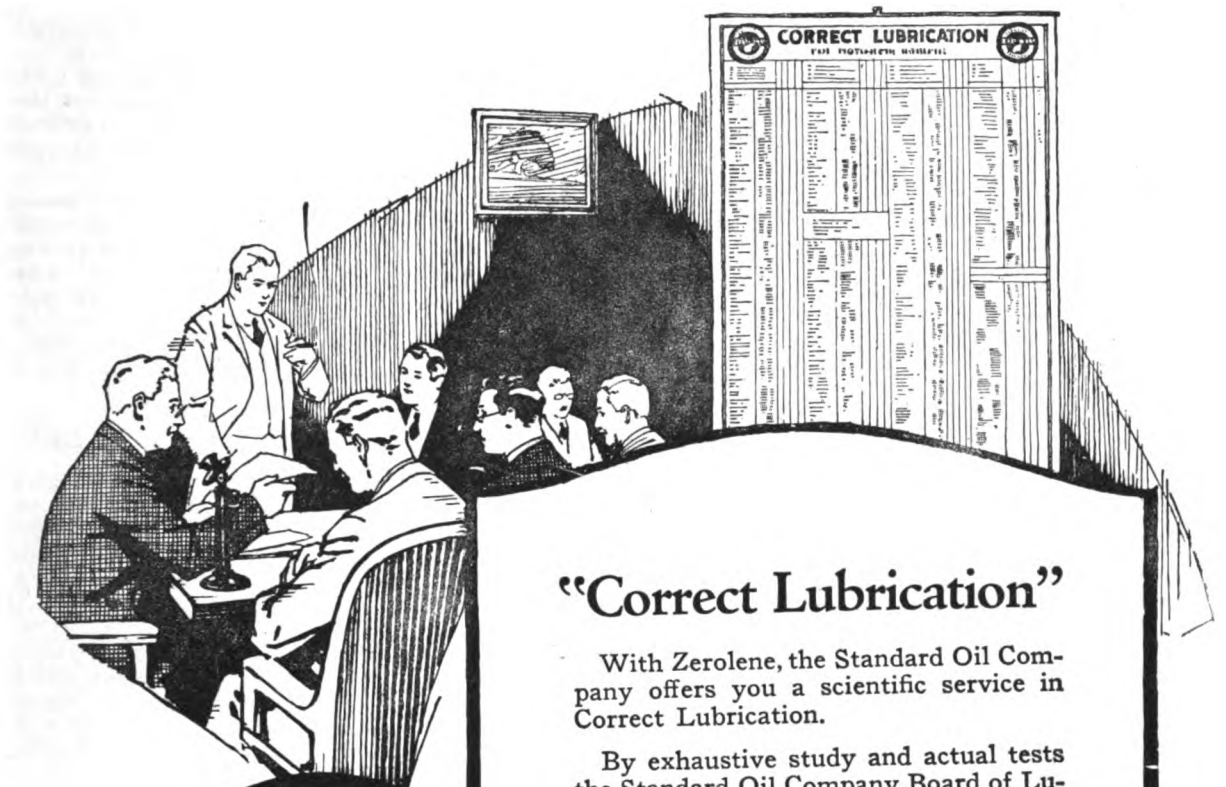

"Correct Lubrication"

With Zerolene, the Standard Oil Company offers you a scientific service in Correct Lubrication.

By exhaustive study and actual tests the Standard Oil Company Board of Lubrication Engineers has determined the correct consistency of Zerolene for your make of automobile. Their advice and recommendations are made available for you in the Zerolene Correct Lubrication Charts. There is a separate chart for each make of car.

Zerolene is correctly refined from selected California crude oil. It keeps its lubricating body at cylinder heat, holds compression, gives perfect protection to the moving parts and deposits least carbon. It is the product of the combined resources, experience and equipment of the Standard Oil Company.

Get a Correct Lubrication Chart for your car. At your dealer's or our nearest station.

STANDARD OIL COMPANY
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The Standard Oil
ZEROLENE
For Motor Cars

A grade for each type of engine

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Motor Truck for Short Haul

Prominent Farmers' Journal Shows How it Will Help Railroads and Benefit Both Producer and Consumer

ONE NEED glance back only a few months to the war period in order to realize the vast importance of the transportation problem, says the Farmer and Breeder. We saw that during the war the railway systems could not keep up with traffic requirements. Consumer and producer both paid for the loss of what was not carried. Since the war the railroads, of course, have done better. But still there is more freight than they can carry. Moving the crops alone could use their entire capacity for several months. Long-haul coal shipments also make large demands. Producer and consumer still pay for what cannot be shipped, because of shortage of cars, congestion, etc.

The fact is, the railways need short-haul feeders, a function of the motor truck. Short hauls tie up freight cars. Their handling by the railroad means congestion. They interfere with and in a hundred ways slacken the speed of the long hauls, the proper function of the railway systems.

Who will profit most when the short hauls are given over to the motor trucks? Consumer and producer. Neither will then be paying for goods lost to the market through lack of transportation. The market will absorb the whole output. The consumer will pay less because of the greater supply. The producer may sell lower, but will more than make up for this by increasing his total sales. Markets will tend to stabilize for the reason that distribution will more nearly meet the demand.

Thus the truck can relieve the marketing situation by taking over part of the business of the railway systems. But it will not stop there in its benefits to producer and consumer. With trucks of a motor express working by schedule daily past his place on the way to markets in nearby cities, the farmer who has only a small surplus of such products will get into the habit of sending his surplus cream, eggs, garden produce, etc., to the city instead of allowing it to waste untouched, or, in the case of the cream and garden produce, to find its way to the pigs, which can fatten just as well on food for which there is less demand in the cities. Many by-products of the farms are lost today because the farmers cannot afford to give their time or that of their employes to driving automobiles or wagons to town to dispose of them.

Indirectly, because of this phase of the time element, producer and consumer will benefit when truck routes become numerous. The farmer who does not need to give the time of himself or his employes to transportation of his product to market will be able to put the time and energy that would have been expended in that way to other duties—to raising more corn, for feeding more hogs, for sending more meat to market.

Many Farmers are Adopting Trailers

Many farmers and fruit growers are finding the trailer and semi-trailer two of the most useful pieces of farm equipment. The light two-wheel and four-wheel high-speed trailer is used with runabouts and touring cars for hauling small quantities of farm products to market which otherwise would go to waste or be fed to live-stock. Too much time would be lost if these small lots were taken to market with horse and wagon, but a round trip to town with the family car and a trailer loaded with a few hundred pounds or half a ton can be made in a couple hours or less. Produce handled in this way includes milk, butter, eggs, live poultry, fruit, vegetables and even live pigs, calves and cows. The car is used at other times without the trailer for all customary purposes.

This use of trailers appeals to the women members of the farmer's family because it avoids the loading of boxes, crates, cans, etc., in the tonneau of the car, with consequent marring of the finish, scratching and tearing of the upholstery and soiling of the interior generally.

Semi-trailers are used extensively where there is more and heavier hauling to do. Loads of two to three tons are carried on semi-trailers with runabouts and touring cars. The rear deck of the runabout or the body of the touring car back of the front seat is removed and a fifth-wheel device bolted into the frame over the rear axle. The front end of the semi-trailer is attached to and supported by this fifth wheel. Weight of the load is thus divided between the automobile and the two wheels of the semi-trailer. The trailer is detached whenever desired and the car used alone for errands or pleasure driving.

Small farmers find that trailers and semi-trailers, used with their automobiles, often serve all their hauling needs. Says a cattle breeder in Arizona who has hauled a two-wheel trailer 15,000 miles behind his light runabout and has not had an outlay of more than $15 on the trailer: "I have carried cows, calves, bulls up to a ton weight; lumber, grain, large trees, wood, coal and many other things used on my farm. Such a vehicle is indispensable to me and I think would be more generally used by farmers if they realized the many uses the trailer can be put to."

Has a Motor Truck Nine Lives?

A motor truck should never wear out, and would not if worn parts were replaced in time and the truck was handled only by skilled and careful drivers. Several cases have been cited where owners have operated trucks for four and five years at a cost of less than $100 for parts, and the trucks are performing as well as when they first went out.

One owner says he employs only men who have the interest of partnership in getting the utmost efficiency out of the trucks, fixing and renewing the parts which need it. Some owners give bonuses and increase over the wage, based on the value of keeping the trucks in uninterrupted service.

Napoleon Motors to Build Trucks Exclusively

The Napoleon Motors Co., Traverse City, Mich., will cease completely the manufacture of passenger cars in the future, and is now cleaning up the last of this class of cars to devote its entire attention to the Napoleon truck. This truck is manufactured in two models, 1-ton and 1½-ton capacity.

The company was organized in August, 1917, with a capital of $500,000, of which $250,000 worth of stock was sold. W. J. Chase is president; Frank Trude, secretary-treasurer; W. G. Rath, general manager; S. H. Rae, factory and production manager; William A. Schmaltz, purchasing agent, and C. D. Peet, sales and advertising manager.

Post Office Department's Help Impends

It is probable that the Post Office Department will help bring farm products to market by having it carried on motor mail-carrying vehicles. Investigations are being made in various parts of the country, and a newspaper man of Washington, D. C., investigating "on his own," finds many Maryland farmers produce more than they can use and lose the value of the remainder for lack of adequate transportation; also that many of them still use the two-wheeled ox cart to do their marketing.

Republic and Torbensen Earnings

During the three months' period previous to Sept. 30, 1919, the combined net sales of the Republic Motor Truck Co. and the Torbensen Axle Co. amounted to $6,264,773. General expenses brought the net profit to $644,951, while other income raised it to $767,230. Deducting interest charges but not federal taxes left a surplus of $246,327.

Join the Ship-by-Truck Movement.

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Commerce TRUCKS

Ten Years *of* Progress In Truck Efficiency—

THAT is the manufacturing record behind Commerce Trucks.

Each year a better Commerce—a speedier—more efficient—more reliable vehicle.

Each year a Commerce that increasing numbers of truck users put their stamp of approval upon, until today Commerce is the largest exclusive builders of one to two ton trucks in the world.

If you are not already familiar with the Commerce line, it will pay you to learn more about it.

The COMMERCE MOTOR CAR CO.

DETROIT :: MICHIGAN

FREEMAN A. McKENZIE,
CITY GARAGE, INC.,
1205 South Olive St., Los Angeles, Cal.

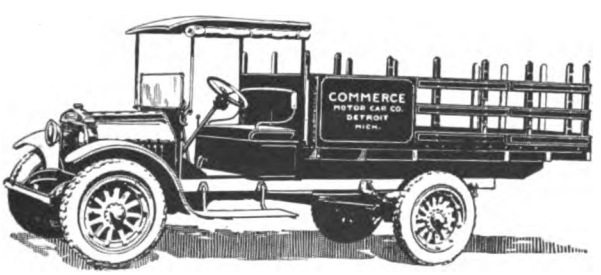
McCRACKEN MOTOR CO.,
Portland, Ore.

COMMERCIAL MOTORS CO.,
Seattle, Wash.

C. P. KIEL,
1830 Van Ness Ave., San Francisco, Cal.

SULLIVAN TAYLOR MOTORS, LTD.,
1260 Granville St., Vancouver, B. C.

W. B. WOOD,
Pacific Coast District Manager,
1205 South Olive St., Los Angeles, Cal.



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1920 Gramm-Bernstein Line

Consists of Six Models, One Internal Gear Drive and Five Worm Drive—All Sold Completely Equipped

THE Gramm-Bernstein Motor Truck Co., Lima, Ohio, is announcing a new line of motor trucks for the year 1920 which have been entirely redesigned after a careful analysis of the Class B Liberty Truck and are based upon a successful truck-building experience now rapidly approaching twenty years. The new line consists of six models, including a 1½-ton internal gear, and worm-driven models in 1½-, 2-, 2½-, 3½- and 5-ton capacities.

The 1½-ton internal gear, known as Model 15, has been built to round out the Gramm-Bernstein line and fill the demand for a strictly high-grade truck of 1½-ton capacity to sell at a popular price. It is driven by a Continental "N" motor and uses a conventional type transmission with a Clark internal gear axle which, the manufacturers state, proved the most efficient of several axles of this type which were tested out under this truck. The truck is equipped with 36x3½ inch solid tires in front and 36x5 inch single solids in rear and an electric generator, battery, lights and horn, tools and driver's seat is included in the chassis price. Frame is the standard Gramm-Bernstein type. Both brakes operate on the rear wheels and are equalized. The driving shaft is two-piece, supported in the center and equipped with three flexible disc universal joints of the Gramm-Bernstein two-bolt type. The manufacturers have used this type of joint throughout their line and claim that it has proven far superior to metal joints. The truck is also equipped with a wooden body sill which is clamped on to the frame with wrought iron clamps. The body is then clamped upon the sills, which eliminates the necessity of drilling through the frame.

The Gramm-Bernstein line of worm-driven trucks has as its basis the new 5-ton model, known as Model 50. The 2½-, 3½-, and 5-ton capacities are driven by Liberty truck type motors. The 1½- and 2-ton models are equipped with the latest type Continental motors. The entire line of worm-driven trucks are very similar in appearance, except for the difference in size, and the same practice has been followed out in the design and production of each model.

Perhaps the most important features of the worm-drive line is the fact that they are regularly equipped with a standard cab with doors, ventilating windshield, moto-meter, radiator guard, radiator shutters and shroud, army towing hooks, hub-odometer, metal license brackets front and rear, spring trailer drawbar supported in frame by extra A member, electric generator, storage battery, lights and horn. This company claims to be the first to regularly equip its line with these features, which add approximately $500 to $600 in value to a chassis.

The clutches employed in these new models are of an improved design of dry disc type. The transmission used throughout the line of worm-drive trucks is the same as has been so successfully used by this company for the past six or seven years. It is of the individual clutch type, which eliminates the shifting of gears. The gears and clutches are assembled on a six splined shaft by a patented process which eliminates the use of bolts, set screws, pins or anything of that nature to hold the part in place. This assembly is protected by Gramm-Bernstein patents. Four speeds forward and one reverse are employed in all except the 1½-ton model. The transmission case has a filler spout extending beyond the frame to facilitate renewing the oil.

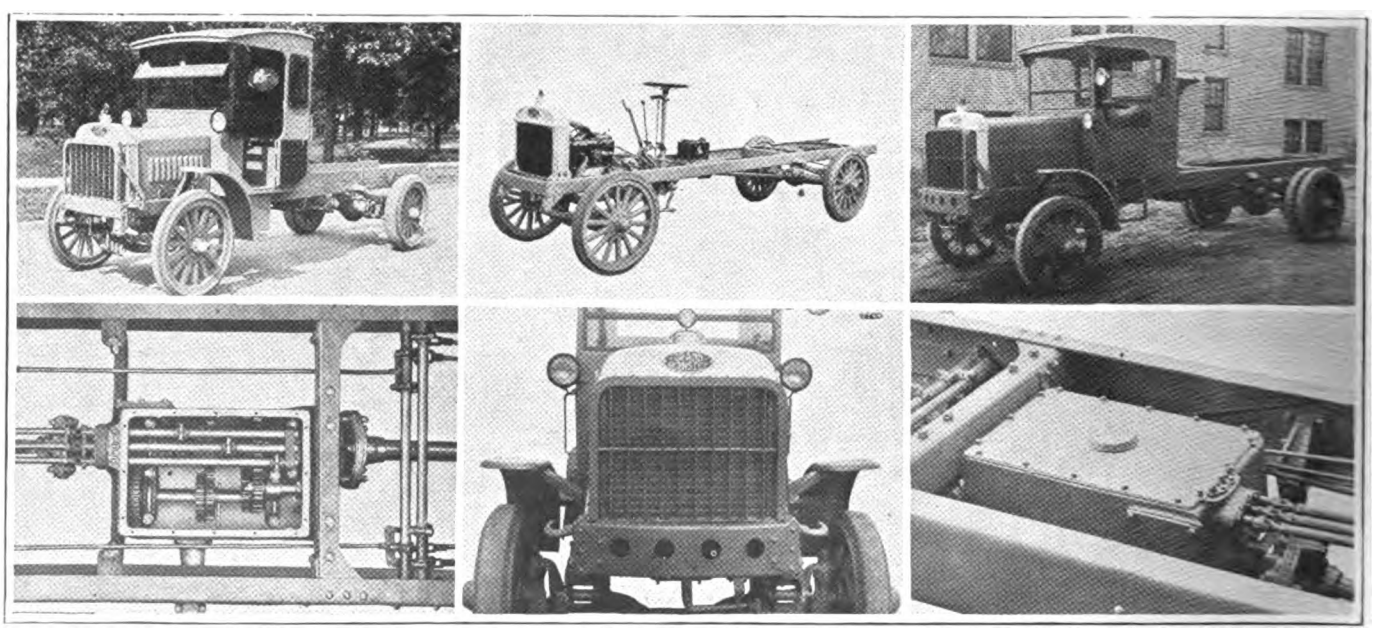
The universal joints are of the G-B flexible disc two-bolt type. Brakes operate on the rear wheels and are equalized; the equalizer shaft operates in oilless bushings. The cab and windshield supplied with these trucks are of an extremely rugged type, the cab being equipped with fore-doors and storm curtains which open with the doors. Steel wheels are regular equipment on the 2½-, 3½- and 5-ton capacities.

On the 1½-ton and 2-ton models the gasoline tank is mounted on the dash to insure a strong gravity feed, while in the three larger models the tank, of 30 gallons capacity, is mounted under the seat with a Stewart heavy-duty truck type vacuum system to supply the carburetor.

The entire line possesses an ample-sized, clean-cut, business-like appearance which the manufacturers claim is not belied by their performance.

It would seem that the policy of selling the trucks completely equipped would indicate a forward idea in truck building and one which will undoubtedly be followed by other progressive manufacturers, inasmuch as the purchaser almost invariably equips his truck with the cab and many other features before he actually places his truck in operation.

The list prices of the G-B line are as follows: 1½-ton, internal gear drive, $1995; 1½-ton, worm drive, $2500; 2-ton, worm drive, $2900; 2½-ton, worm drive, $3600; 3½-ton, worm drive, $4450; 5-ton, worm drive, $5500—all f. o. b. Lima, O.



THE 1920 GRAMM-BERNSTEIN LINE—(Left to right—Upper) Two-ton chassis, completely equipped. 1½-ton chassis (has starting motor). 5-ton chassis, with Hotchkiss drive. (Lower) Transmission of 2-, 2½-, 3½ and 5-ton models. Front view of 5-ton chassis, showing radiator shutter, Moto-meter and army hooks for towing. Non-gear-strippping transmission used in 5-ton truck, showing removable plate in side where power take-off is attached.

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HAUL IT IN A HALL

DUAL MEANING *of* "TRUCK SERVICE"

AS applied to the truck industry, the word—"SERVICE" has a dual meaning.

It indicates those mechanical and structural qualities in Motor Trucks, which ensure truck purchase satisfaction through definite, dependable, OPERATING SERVICE.

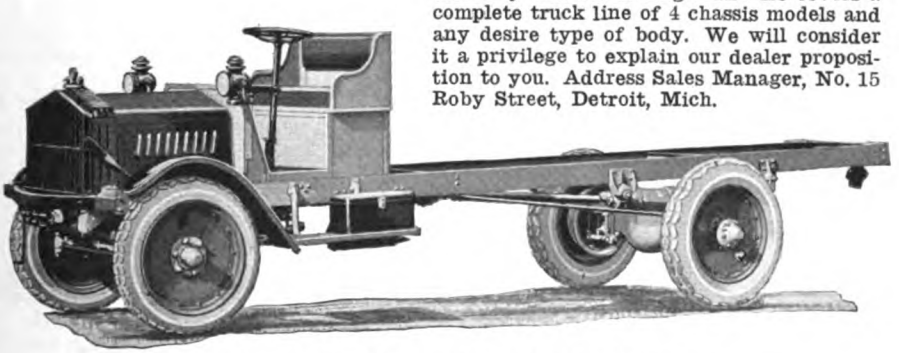
It represents the physical ability, as well as the will of truck manufacturers to furnish SERVICE through prompt delivery of replacement parts, made necessary by accidents or honorable old age.

HALL TRUCKS are a complete exemplification of the possibilities of both classes of "TRUCK SERVICE."

That's only natural, however, because the makers of HALL TRUCKS, as an organization have been carefully and systematically establishing throughout the past 46 years a reputation for conscientious business dealing that is exceedingly valuable and worth maintaining at any cost.

That's only one of the reasons why a better truck than the HALL or a more complete or satisfying service than HALL SERVICE does not exist. Let us prove those claims.

We have some extremely desirable open territory and our selling franchise covers a complete truck line of 4 chassis models and any desire type of body. We will consider it a privilege to explain our dealer proposition to you. Address Sales Manager, No. 15 Roby Street, Detroit, Mich.



Pneumatic Tire Equipped—2-Ton Hall Chassis

As Manufactured by
The LEWIS-HALL IRON WORKS
DETROIT, MICHIGAN.

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Enter the "Rolling Market"

New York to Have System of Traveling Motor Truck Stores Designed to Lower H. C. of L.

AS A MEANS of reducing the cost of food in New York City, Jonathan P. Day, Commissioner of Markets, proposes to establish 100 to 150 "rolling markets." These are motor trucks which will haul fruit, vegetables and other foods to all parts of the city and sell direct to housewives. Prices will be materially less than in the regular markets and grocery stores because the rolling markets will have no rental to pay and overhead expenses in general will be less.

Commissioner Day's plan is susceptible of important development that should make it possible to cut retail prices in half. Produce can be brought into the city directly from the farms by trucks and sold on the streets. It is common observation that large quantities of fruits and vegetables annually go to waste on small farms within 100 miles of New York and other large cities. Careful investigation has shown that market prices in New York are about three times the prices received by growers for their products. Food shipped by rail and steamer is unloaded at the lower end of the city and hauled to commission houses. It then has to be carted miles uptown to Harlem and the Bronx, at heavy expense, to places it passed when entering the city.

This double haulage, plus the commission man's profit, would be eliminated if the produce were hauled from the farms to the sections of the city where it is to be sold. The farmer would save the time and cost of hauling to the railroad or steamer dock at his end of the route and, being assured of sale of all his produce, should accept minimum prices for it. Fruits and vegetables, eggs, butter, etc., would be sold on the streets from the rolling markets the day after they were gathered and shipped and would be in the freshest and best condition for use.

Cost of transporting and selling the produce can be reduced to the minimum by the systematic use of trailers with the trucks. One, two or three trailers can be hauled by a single truck or tractor and left at the farms to be loaded while trailers already loaded are picked up and hauled to the city. This will save the time of the truck and its driver, as they will not need to wait for loading.

Upon reaching the city, the trailers can be left at different points, each in charge of a salesman who will retail the load during the day. Meanwhile, the truck or tractor starts back into the country with trailers emptied the previous day.

The cost of operating a truck of five tons capacity is about $30 a day, a large part of which is due the driver's wage of $5 a day and to overhead, which includes interest on investment, insurance, license, depreciation, etc. This part of the expense is largely avoided when trailers are used, as trailers cost only one-quarter to one-third as much as trucks of equal load capacity.

In addition to this saving in overhead, there is a very large saving in hauling expense. A motor truck is able to haul at least one and sometimes two or three trailers with loads equal to the capacity of the truck, provided the roads are hard surfaced and grades are not excessive. If only one trailer is used, its load can be hauled at a saving in cost of 80 to 85 per cent. So, if it costs $30 to haul five tons 50 to 60 miles from a farm to the city in one day on a motor truck, or at the rate of $6 a ton, ten tons can be hauled with a truck and trailer for $36, or at the rate of $3.60 a ton. On every ton, therefore, there would be a saving of $2.40 in transportation alone, the benefit of which would be given to the housewife in the form of lower retail prices.

There is no more certain way of cutting to the minimum the prices of fresh fruits and vegetables to city consumers than by this direct producer-to-consumer plan. Practically the only expense involved is for transportation and selling from the rolling markets, and the cost of transportation can be cut in half or reduced even more by the systematic use of trailers. There should be three or six trailers for each truck. If the truck can haul only one loaded trailer, there should always be one at the farm loading and one in the city at the selling point while the truck is on the road bringing a fresh load to town or returning to the farm with an empty trailer. But if conditions permit the truck to haul two trailers, the equipment should be doubled. Without doubt this system will come into extensive operation in various parts of the country in the near future.

THE MOTOR TRUCK

I am the Motor Truck—of damaged highways
Ruts and holes, the cursed beginning.
Yet hear my self-defense—I claim
I'm far more sinned against than sinning.

I plod neglected, time-worn roads,
Until my parts all ache with strain;
I haul freight cheaper, quicker, better,—
I slave; I sweat;—all for the nation's gain.

I am a public servant—patient,
Drudging utility of trade.
Yet they would stint me rather than
To build good roads to give me aid.

My railroad brother once outgrew
His rails by hauling increased freight;
He wasn't held down to the rails—
They built the rails to hold his weight.

Unbar the gates that hold me back
If you would have me haul your loads.
I'll do my part if you'll do yours—
Just give me better roads.
—P. L. Sniffin, International (Mack) Motor Co.

Fulton Busy During Reconstruction

"Business as Usual" is the slogan of the Fulton Motor Truck Co., Farmingdale, Long Island, and New York. During the days of reconstruction of the affairs of the company more business is being done than ever before. Orders received have been larger within the last month than have ever been recorded by the sales department in any one month in the past, according to C. M. Kraham, sales manager. Branch houses of the company have been particularly active and have booked many orders for fleets of trucks in several sections of the country. The closing of an order of commanding size which came with changes in distribution for Denver and vicinity has placed the company far behind in its orders, making necessary continuous resort to stock chasing the country over. Demands of business made necessary many changes in the Fulton organization and manufacturing plans to enable keeping pace with demands, and these are being worked out as rapidly as possible.

Concerning Control of Republic Truck

F. W. Ruggles, president of the Republic Motor Truck Co., takes pains to say, in connection with the taking over of control of the company by himself, John N. Willys and W. J. Baxter of New York, that the Willys-Overland Company had no part in the deal. The new control also covers the Torbenson Axle Co., of Cleveland. The interests in these companies, held by persons in Cleveland, Alma and elsewhere, were bought outright, the sellers being Charles F. Rhodes, former secretary of the Republic company; C. F. Hepburn, former vice-president and general manager; J. O. Eaton and others, all having severed connection with the companies. The original Republic policies are to be continued in large measure.

To Establish Motor Truck Systems in Illinois

F. W. Fenn, secretary of the National Automobile Chamber of Commerce motor truck committee, recently consulted Governor Lowden of Illinois with reference to establishing motor truck express systems in that state, on the plan adopted in New York State.

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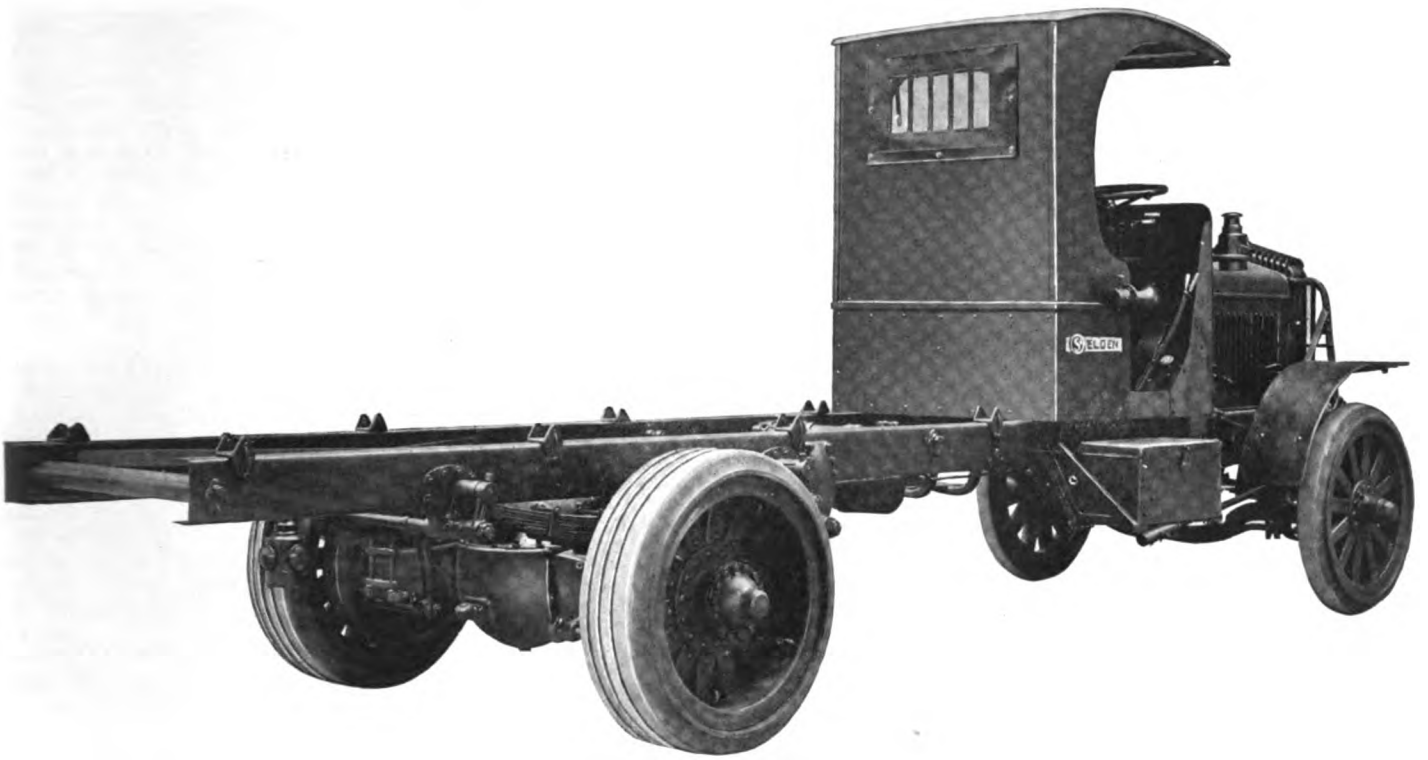

flexibility

The continuous shocks and twisting strains to which motor trucks are subjected when traveling over rough, guttered, worn down roads never reach the more delicate, vital parts of Selden flexible, shock-absorbing trucks. These vibrations are entirely absorbed by the new Selden method of frame construction.

Not a rivet is used in the construction of the new Selden models. S. A. E. bolts are used throughout; all joints are of a flexible type that prevents sudden jars and jolts from inflicting serious damage; and well placed spiral springs offer still further protection. The methods of suspension of the motor and radiator, too, are such as to provide abundant protection for these sensitive parts.

Even a careless driver, who never turns a grease cup, can not seriously injure a flexible, shock-absorbing Selden Truck—all the less accessible joints are fitted with graphite-impregnated self-lubricating bronze bushings.

All these and many other distinctive features of Selden Trucks combine to make them trucks of extra long life and low maintenance cost.

Write for "Transportation"

Ask us to send you regularly the new Selden Magazine—"TRANSPORTATION." It contains valuable information on the operation of motor trucks.

Ship by Truck—SELDEN Truck

1½, 2½, 3½, 5 Ton Models—all WORM Drive

SELDEN TRUCK CORPORATION, Rochester, N. Y., U. S. A.

Selden Motor Trucks

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Copyright 1919, by the Goodyear Tire & Rubber Co., Akron, Ohio

GOODYEAR

Please Mention "Motor West" When Writing to the Advertiser

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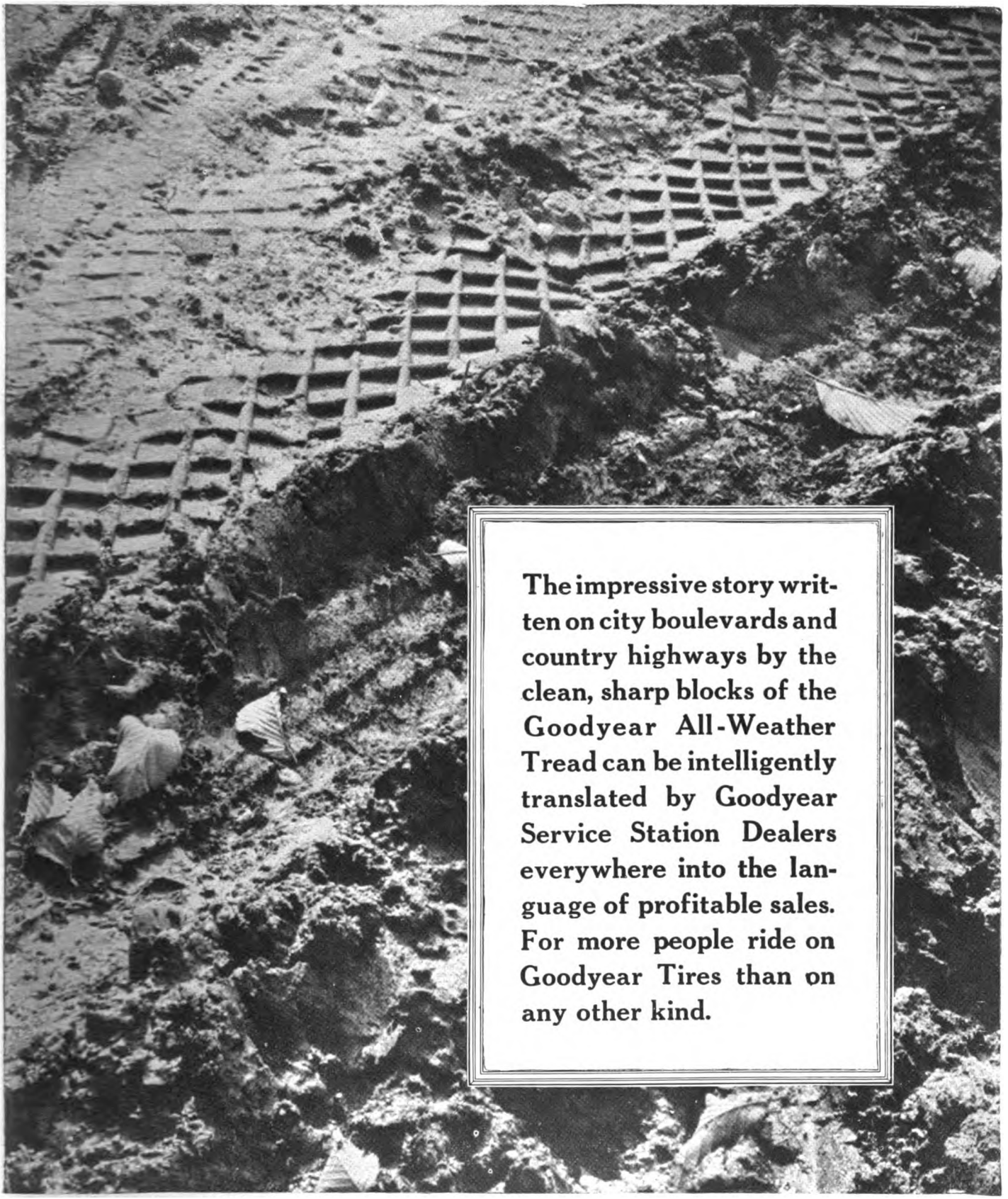

CORD TIRES

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Two New Clydesdale Models

Pair of Light Capacity Trucks, 1 and 1½ Ton, Complete Famous Line—All Have "Driver Under the Hood"

EVER since the completion of the service organization of the Clydesdale Motor Truck Co., Clyde, Ohio, service records of thousands of Clydesdales in use all over the world have been kept. Recently when the demand for lighter trucks made necessary the building of some new Clydesdale models these service records were consulted. The maintenance of every separate part was painstakingly checked over and ever indication of weakness eliminated.

As a result it might be said that the new Model 32, the 1-ton truck, and the new Model 42, with a 1½-ton capacity, have been designed from a composite experimental model which has been in use all over the world for the last eight years. The full line, in addition to these models, comprises trucks with a 2-ton, 3½-ton and 5-ton capacity.

The special feature of every Clydesdale is the automatic controller known among Clydesdale owners as "The Driver Under the Hood." This is a centrifugal governor driven from the pump shaft. It is attached to the throttle rod through a lever and a spring. The pull between the spring and the centrifugal governor is balanced. Changing the throttle lever on the steering gear changes the tension on the spring, thus changing the engine speed and the truck rate.

Suppose the truck is moving 12 miles an hour, with the engine turning over at the rate of 1000 r.p.m., and it comes suddenly to a stretch of sand. The engine slows down slightly, and with it the Clydesdale controller. The balance between the spring and the controller is destroyed. Instantly the spring begins to pull the throttle open. This admits more gasoline to the carburetor, and keeps the engine up to the fixed speed necessary to send the truck along at its predetermined rate. When the truck strikes smooth going again the process is reversed. This exclusive Clydesdale feature permits the truck to hold a certain, predetermined speed up hill and down, though the going be rough or smooth.

The same basic principles of design and the fundamentals of construction that have proved so remarkably successful in the London General Omnibus Trucks have been practically duplicated in the Clydesdale.

The frames in these lighter models are of pressed steel 5½ inches deep and 2¾x3-16 inch section. The maximum depth of the frame channel-deep is in the center where the greatest load is borne. This tapers off toward the ends where the load strain becomes reduced. The chassis weight of Model 32 is 3400 pounds, which gives a load allowance of 2000 pounds and a body allowance of 1000 pounds. The figures for Model 42 are slightly in excess of this.

In both models the loading space is 117½ inches, which is obtained from a 144 inch wheelbase. In model 42 the front tread measures 56 inches and the rear tread 58 inches. These trucks are built for a standard maximum speed, with the automatic controller, of from 16 to 18 miles an hour. Their turning radius is 26 feet.

The S. A. E. rating of the engine puts the horsepower at 22.5. Turning at 1200 r.p.m. it will develop 27 horsepower. There are four cylinders cast en bloc of gray iron. The bore is 3¾ inch and the stroke 5 inch. The crankshaft, of the three-bearing type, is drop-forged and heat-treated. The connecting rods are also drop-forged, with an I-beam section. Pistons are of gray iron with three rings. A high-tension magneto takes care of the ignition. Spark plugs are ⅞ inch S. A. E. standard. The gravity system of fuel feed is used, from a tank with a 30-gallon capacity. Cooling is obtained from a thermo-syphon circulation. A large ball bearing fan is mounted on the engine. The radiator is built of straight copper tubes without fins, durable and easy to keep clean.

The transmission is of the selective type in unit with the engine, with three speeds forward and one reverse, direct in third speed with a gear ratio of 3.33 to 1 in first speed.

The forced feed and splash systems of lubrication are used. Springs are semi-elliptic of special alloy steel, bushed throughout and equipped with oil cups. In front they measure 36x2¼ inch; in the rear 50x3 inch. Brakes are of internal expanding type, with two sets on each rear wheel. They measure 15 inches in diameter by 3 inches wide.

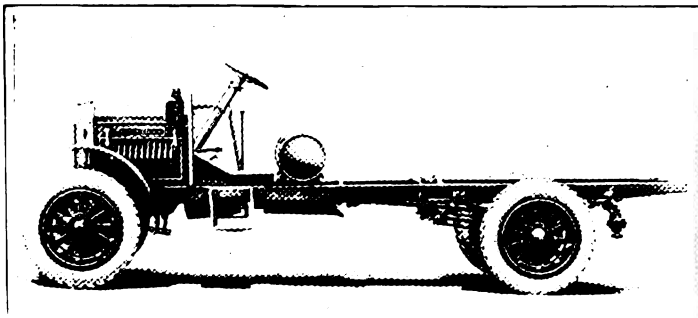
Tires are pressed-on S. A. E. standard. In the Model 42 these measure 36x3½ inch in the front and 36x6 inch in the rear. Solid tires are standard, but pneumatics will be furnished extra.

U. S. Truck Co. Aiming to Build Truck Complete

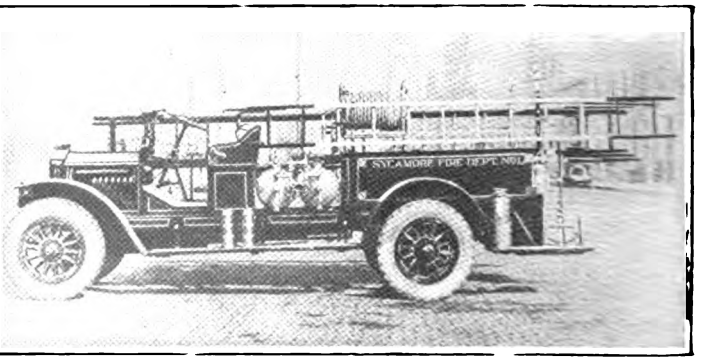
With the object of ultimately building its complete truck, the United States Motor Truck Co., in its big plant at Covington, Ky., is utilizing more and more space for the construction of important units entering into the make-up of all of its models. Large departments are now devoted to the building of bodies, cabs, seat-backs and to much of the smaller manufacturing. Help is being added constantly, and other departments spring up almost overnight. The great plant of the Stewart Iron Works, which was established in the early part of the nineteenth century, is being given over more and more to the manufacture of United States motor trucks to meet the demands for this product, which are now world-wide. When the United States Motor Truck Co. started some years ago an output of 100 trucks per year was considered big business. Today an output of 200 trucks per month is a growing possibility, and in fact this figure has been reached frequently and will soon be an established fact in production.

Prices of Parker Trucks Advanced

Effective December 1st, prices of the three models of Parker motor trucks were advanced as follows: Model F9W, 2-ton, from $3325 to $3500; Model J9, 3½-ton, from $4150 to $4400; Model M9, 5-ton, from $5225 to $5500.



SIDE VIEW OF NEW 1-TON CLYDESDALE TRUCK CHASSIS.



1½-TON CLYDESDALE USED IN FIRE DEPARTMENT WORK.

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Two Years Ahead of the Industry

Jumbo Constructional Features—Standard

Straight line drive under load.

Radiator guard mounted independent of radiator. Radiator shutters controlled by driver, fan shroud, heavy ball thrust in steering knuckle, steel cab with three-man seat, heavy cushions, divided; fore doors and disappearing curtains, clear vision windshield, Motometer, Hub odometer, Pig-tail Tow Hooks, Foot-form accelerator, Spring Drawbar for trailer attachment.

Electric lights, horn, generator, storage battery and impulse starter. No extras to buy except body.

BRIEF SPECIFICATIONS.

Buda Motor, Clark Internal Gear Axle, Zenith Carburetor, Brown-Lipe Transmission, Eisemann Magneto, Simplex Governor.

JUMBO
The Complete Truck

These Jumbo Features Lower Sales Resistance for Dealers:

The new Jumbo models are assuredly of advanced design. Jumbo engineers have not only selected the world's best units as equipment, but have added efficiency features to all Jumbo models that out-distance any and all competition.

The prospective buyer cannot help but be impressed with the sturdiness of the truck as a whole, as well as with these leading features which give comfort to the driver and longer life to the truck.

Jumbo trucks are the first internal gear trucks to adopt war-time improvements—they are the first to include every equipment feature necessary to successfully truck performance.

With these improvements, Jumbo trucks now comprise the most complete line of completely equipped internal gear driven trucks in America.

A complete line of Jumbo trucks will be exhibited at the New York Truck Show, January 3 to 10, and at the Chicago Truck Show, January 24 to 31, 1920. In the meantime we want dealers to write us for full information. Open territory will be snapped up quickly.

NELSON MOTOR TRUCK COMPANY

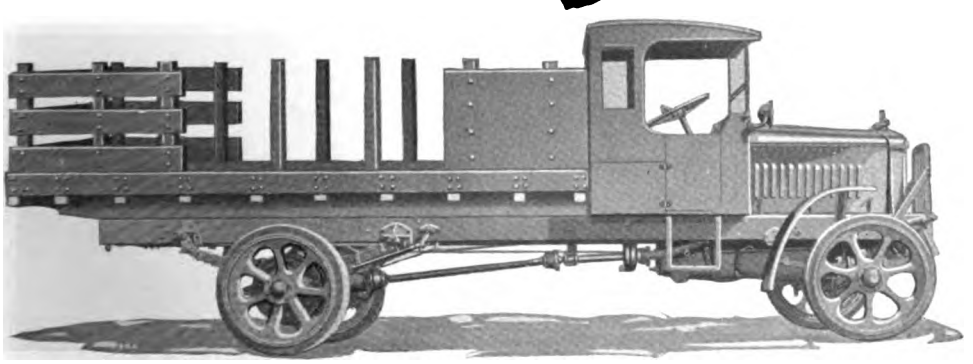
SAGINAW, MICHIGAN

Pacific Coast Distributors.

Gates-Kelly Automotive Co., Los Angeles, Calif.

F. P. Rivas Co., 816 Balboa Bldg., San Francisco, Calif.

Mitchell, Lewis & Staver, Portland, Oregon. Spokane, Wash.



Dealers:

It is a significant fact that in three years no Jumbo dealer has dropped the line, and that so far as we know there isn't a single dissatisfied owner in all the world.

The Jumbo story will be told to every possible prospect by dominant advertising in national business magazines, farm publications, newspapers, automotive trade journals and direct literature.

Get all facts—Our sales plan is especially attractive to progressive and far-visioned dealers.

NELSON MOTOR TRUCK COMPANY SAGINAW, MICHIGAN

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New Selden 2½-Ton Truck

Is Built in Two Wheelbase Lengths for Various Kinds of Hauling—Has Unusually Complete Equipment.

THE Selden Truck Corporation, Rochester, N. Y., has just announced an addition to its line—a 2½-ton job, listed at $3290 factory. This latest model in an already comprehensive line has a standard wheel-base of 145 inches, with a length of 134¼ inches from the back of the driver's seat to the end of the frame, and a long wheel-base of 165 inches, with a length of 170¼ inches from back of driver's seat to end of frame. The longer wheel-base job carries with it an additional cost of $100.

The general outline of the new model, 2½-A, is identical with that of Model 3½-A, which was covered in these columns some months ago, except, of course, that it is smaller in proportion. The weight of the new chassis is 5400 pounds, with a body weight allowance of 1350 pounds. A speed of 16 miles an hour is provided for.

The motor is a four-cylinder, L-head, cast en bloc, with a bore of 4⅛ inches and a stroke of 5¼ inches. The S. A. E. horsepower rating is 27.2 at 1200 r.p.m. The speed is controlled by a governor. Gas control is by a hand lever under the steering wheel and by a foot accelerator. Ignition is by high-tension magneto.

The radiator, which is amply protected by a rigidly braced fender, is of the built-up type—vertical tubes with helical cooling fins, and non-binding trunnion suspension. The dry-plate multiple disc clutch, which is completely enclosed, has 13 driving plates. The selective sliding gear transmission, which is mounted amidships, has nickel steel gears and chrome nickel shafts, mounted on Timken bearings. The 2½-A is extremely powerful, the gear ratios being as follows: Fourth speed, 7¾-to-1; third speed, 11.6-to-1; second speed, 22-to-1; first speed, 37.5-to-1; reverse, 44.9-to-1.

The worm-drive rear axle is of the full-floating type, mounted in a one-piece steel housing. The front axle is of I-beam section, with tie rods behind. The semi-elliptic spring equipment is especially sturdy—2½x40 front, and 3x54 rear. The radius rods are heavy flexible pressed steel rods.

The 2½-A frame is of heavy pressed ¼-inch steel, 2¾ inches wide and 6½ inches deep in section. The semi-reversible steering gear is of the heavy worm and sector type, with a 20-inch steering wheel, located on the right side. The brake lever is mounted on the right side of the frame, and the gearshift lever on the clutch housing.

Heavy 36-inch artillery wood wheels are used all around, with 2-inch spokes in the front pair and 2½-inch in the rear pair. The tire equipment (either Firestone or Goodyear standard) is 36x4 single on front and 36x7 single on rear, with demountable optional.

The heavy steel tank, with a capacity of 30 gallons of gasoline, is mounted in the seat. The standard equipment includes such unusuals as a Moto-meter, hub odometer, radiator guard and heavy nickel steel bumper, besides dash and tail lamps, license plate brackets; mechanical horn, heavy jack, complete set of tools and instruction books. A plain seat is standard. The chassis finish is two coats of lead; color painting and lettering is extra.

Pneumatics Permit Lighter Truck, Heavier Pay Load

That the pneumatic cord tire is working radical changes in the construction of motor trucks by permitting a much heavier pay-load to be carried on lighter weight trucks, has recently been demonstrated beyond doubt. In experiments recently conducted by The Goodyear Tire & Rubber Co., Akron, Ohio, complete truck weight has been cut to 8,000 lbs., permitting a record pay-load of 7,000 lbs.

Heretofore it was supposed that pneumatics would not make any material difference in truck construction, nor was it supposed that any heavy type of truck could be equipped with less than 44x10 tires on the rear wheels. But the company kept close check on the performance of trucks and tires even to the extent of sending several of its express trucks on coast-to-coast trips.

A truck weighing 15,800 pounds, carrying a pay-load of only 3,850 pounds, was stripped to 11,800 pounds and developed a pay-load of 5,800. It was still considered too heavy in proportion to the load carried. A further reduction resulted in a 10,000-pound truck with a pay-load capacity of 6,800 pounds. This was followed with the 8,000-pound truck now carrying a load of 7,000 pounds.

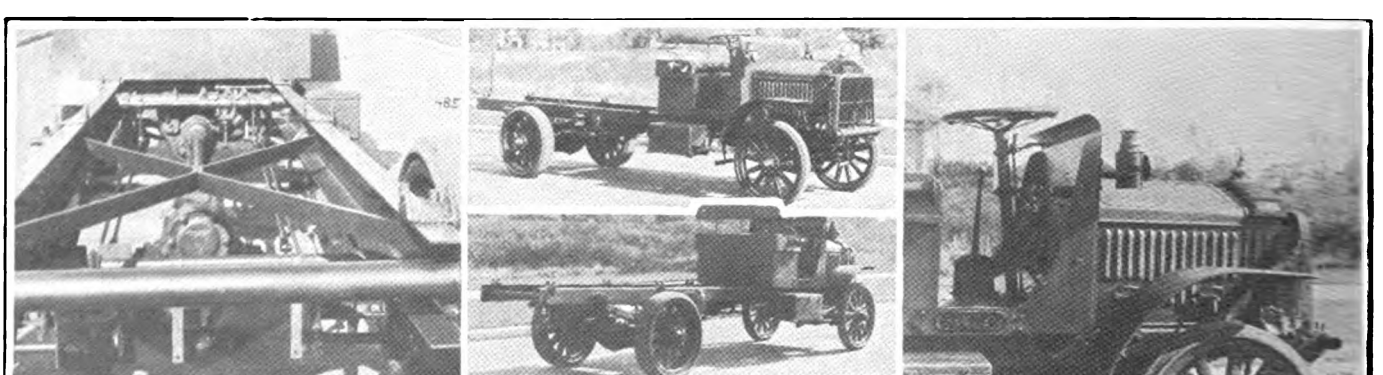
It is the belief of company experts that the end is not yet in sight and that on the heavier type of truck, pneumatic tires will sustain a pay- load equivalent to the weight of the truck. It is not altogether impossible that eventually the pay-load will out-weigh the truck.

Pickens Selden Advertising Manager

The Selden Truck Corp., Rochester, N. Y., has decided to establish within its organization an advertising department. Heretofore, this department has been conducted by the agency handling the Selden account, but the demands made upon it by the nation-wide distribution of its product makes this change necessary. J. E. Pickens will at once assume the position of advertising manager. Mr. Pickens prior to joining the Selden organization was for nearly five years assistant advertising manager of the Federal Motor Truck Co., Detroit. In addition to his duties as advertising manager, Mr. Pickens will also edit "Transportation," a new form of house organ that has to do with better motor truck hauling.

H. H. Franklin, president of the Franklin Mfg. Co., Syracuse, N. Y., announces that 1-ton motor trucks will be made in a separate plant and that production is planned to begin in about ten months. An air-cooled motor and pneumatic tires will be features.

Join the Ship-by-Truck Movement.



SELDEN 2½-TON TRUCK—(Left) Looking forward at chassis, showing rigid frame construction and disposition of component parts. (Center) Two views of complete chassis. (Right) Showing interior of driver's compartment and rigidly braced fender for radiator.

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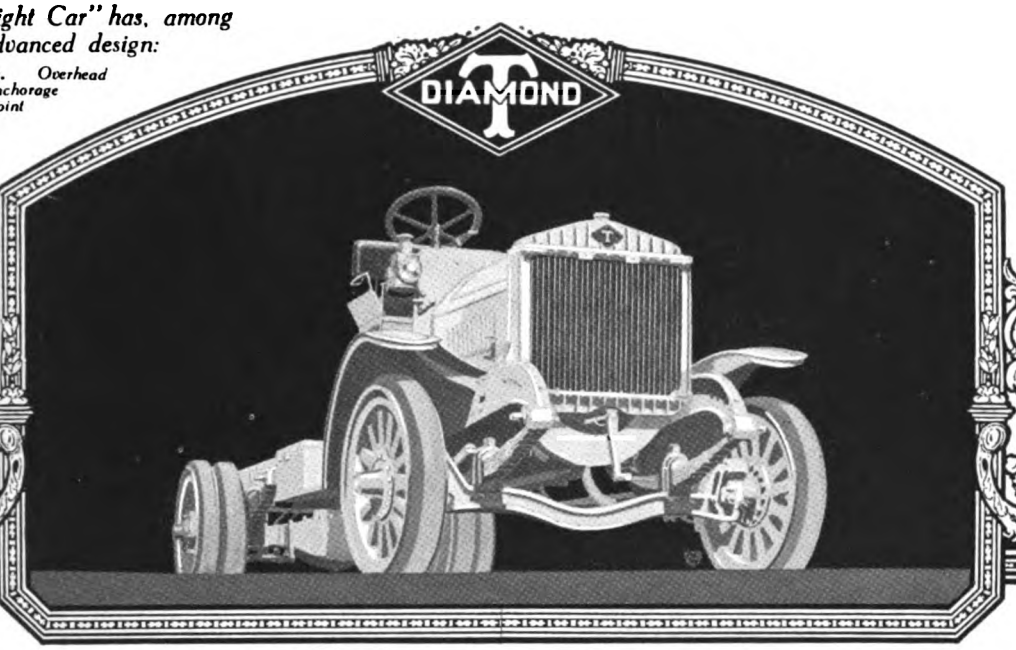
"The Nation's Freight Car" has, among other features of advanced design:

***Perfected** Hotchkiss Drive. Overhead worm. Exclusive Spring Anchorage (Patented) Unique three-point suspension (patent applied for) and other superiorities too numerous to mention, assembled in a design that represents the culmination of **fifteen year's** experience.*



DIAMOND T

"The Nation's Freight Car"

PROOF THAT PROVES

The Diamond T Motor Car Co. has been continuously successful since 1905.

Since 1911, its experience, skill and facilities have been devoted exclusively to the manufacture of high-grade motor trucks.

Only 17 other existing makers can boast of a history of truck manufacture that goes back even to 1913.

The very earliest Diamond T trucks are still in use. Their performance records **prove** everything that we claim—low final cost; dependable year-after-year service; freedom from repairs; uninterrupted service under the most exacting and trying conditions; unvarying efficiency and economy.

Every Diamond T Motor Truck is built to maintain and strengthen an enviable reputation that has been well earned in 15 years of painstaking manufacture. We are perfectly honest and sincere in asserting that every subsequent model has proven, or will prove, the unusual promises conveyed by the performance of our seven, eight, or nine-year-old veterans.

These Distributors are behind Western Sales and Service:

Vernon A. Smith Motor Co.,
Distributors for the State of Washington
511-513 East Pike Street, Seattle, Wash.

Hirsch Motor Company,
Distributors for Upper California
1131 Van Ness Ave., San Francisco, Cal.

Diamond T Truck Sales Agency of Oregon, Inc.,
Distributors for the State of Oregon
89-91 North Ninth St., Portland, Oregon

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Acason
THE OWNER FIRST
TRUCKS

"A PRODUCT IS USUALLY WITHOUT HONOR IN ITS 'HOME TOWN' "

400 ACASON MOTOR TRUCKS OPERATE IN DETROIT

The Home of the Motor Wise

Serviced and Sold in Principal Cities

1 to 10 Ton Capacities—Some Territory is Still Open

Dan Gilkey, Pacific Coast Manager
Care of Acason Sales Co., 39 Van Ness Ave.,
San Francisco, Cal.

C. A. Baer, Asst. Pacific Coast Manager
Care of Northwest Auto Company,
Portland, Oregon

Acason Trucks will be exhibited at the New York Commercial Car Show at the 8th Coast Artillery Armory, January 3rd to 10th inclusive. Space O-1.

Our exhibit at the Chicago show, January 24 to 31st inclusive will be at Space G-7.

ACASON MOTOR TRUCK COMPANY

Exclusively Truck Builders

DETROIT, MICHIGAN

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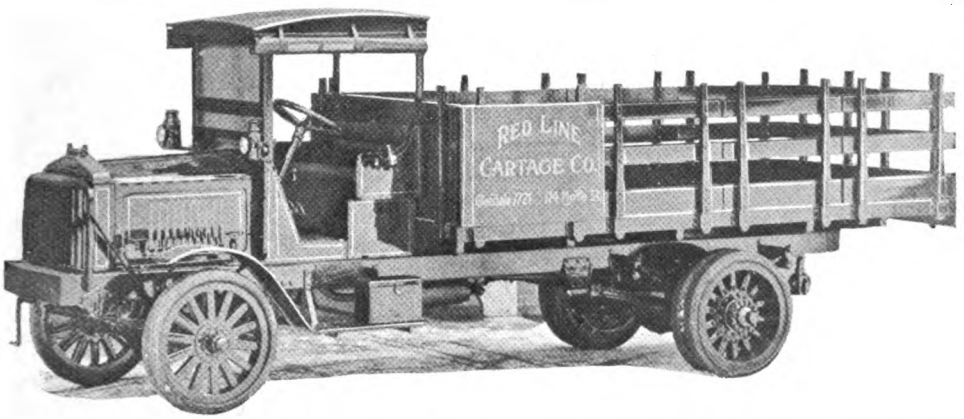
Standard
DETROIT USA



—even its very NAME

expresses STRENGTH—STABILITY—SAFETY

Time was,—when you wanted things well built, it was possible to build them yourself. Today, it is neither possible or necessary.

The Men who build STANDARD Motor Trucks have been among the leading builders of four wheeled vehicles during Thirty odd Years—Heavy Team Trucks for Twenty, and STANDARD Motor Trucks for nearly Ten.

Such an Organization may be depended upon to build Motor Trucks for you—build them as well as if you also were numbered among the Master Truck builders of the Old School, and could now spare the time to supervise the building of your own Motor Truck.

STANDARD Motor Trucks are Standard all the way through and stay Standard—even the very NAME expresses STRENGTH—STABILITY—SAFETY.

You buy these Standard Units when you buy a *Standard Motor Truck*:

TIMKEN-DETROIT Axles and Bearings
CONTINENTAL Motor — EISEMANN Magneto
SPICER Universal Joints — LONG Radiator
GEMMER Steering Gear — PERFECTION Springs
BROWN-LIPE Clutch and Transmission

Increased manufacturing facilities will provide STANDARDS for a limited number of new Distributors.

Write for further information.

1, 2, 3½ and 5 Ton Capacities with a body style for every business.

STANDARD MOTOR TRUCK—DETROIT, MICHIGAN

Standard
DETROIT USA

Exhibited 20th Annual National Automobile Shows:
NEW YORK, January 2nd to 10th—Space P-1 CHICAGO, January 24th to 31st—Space F-3

"All the name implies"

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Co-Operative Truck Owning

Firestone Ship-by-Truck Bureau Shows How Farmer Reduces Costs by Joining Fellows in Purchase

MANY farmers hesitate to buy a motor truck because of the cost, yet as labor gets scarcer and wages higher, the farmer must use more machines of all kinds on his farm and save the time and the wages of a hand wherever he can.

If, after carefully considering possible savings as compared with costs, he feels that he cannot own a truck individually, he can well afford to consider a substitute for individual ownership which farmers in some sections are finding highly successful. This substitute is co-operative ownership.

The co-operative idea is spreading into the rural motor express field, particularly in those states in which the farmers have been schooled in the principles of co-operation through such associations directing creameries, grain elevators and marketing agencies.

Co-operation in these instances came as a means of reducing costs. There has been such a wonderful awakening in the last five years regarding its possibilities in this respect that there are today, according to the Firestone Ship-by-Truck Bureau, about 20,000 farmers' co-operative associations of one kind or another.

While most of these associations are not now using the motor truck, a majority will in time add the motor express to their list of activities, for the reason that it can in so many instances reduce costs of transportation, even as co-operative effort has reduced costs in other ways in the fields already entered by the associations.

The average farmer, if he feels he has need of a motor truck only for going to market, might hesitate to buy because he thinks the truck often would be idle. He will more readily lend support to the co-operative motor truck association, made up of himself and ten or fifteen of his neighbors. The truck or trucks it operates will have few if any idle days. It will be busy doing his work and the work of his little community.

It will carry not only his grain and live stock economically, but it also will open up to him new or neglected avenues of profit. Many farmers are now earning $50 or more monthly from milk the co-operative association truck carries to market. If the trucks' services were not available, this milk would be used on the farm in some time-consuming or less profitable manner. Whatever loss resulted would of course be felt by the city consumer as well as the farmer.

It is not possible to determine in many instances the motor truck needs of the individual farmer by the size of his farm or the kind of farming he is engaged in. The kind of farming practiced determines the needs of the farmer, however, more often than does the size of the farm. Generally speaking, the average farmer engaged exclusively in dairy work or in the work of the truck gardener will want a small truck of his own, while the average grain or live stock farmer may feel that the co-operative motor truck line can serve his marketing needs more economically.

Triple Loads by Using Trailers

That using a trailer triples a motor truck's capacity is not sufficiently understood. When it is, the number of trailers trailing merrily along behind motor trucks will be much more numerous, and motor truck owners will be making considerably more money, is the advice of the Firestone-Ship-by-Truck Bureau.

A motor truck can carry a load to its own capacity and pull a load twice this capacity, in trailers. A lumber company found that a 1½-ton truck, carrying its own 3,000 pounds, could haul 6,000 pounds more on a trailer; that a 2-ton truck, carrying its own 4,000 pounds, could haul 8,000 pounds additional on a trailer, and that a 5-ton truck, carrying its own 10,000 pounds, could haul an additional 20,000 pounds on trailers.

Also, trailers save roads in at least two ways. They weigh less than trucks, and, having no traction wheels, wear the road less. A 5-ton truck weighs about 10,000 pounds. A 5-ton trailer weighs 3,000 to 4,000 pounds—it has neither engine nor driving mechanism. In traveling its wheels develop no suction. They merely roll, pressing down but not loosening the surface. Rubber tires on trailers yield two to three times the mileage of equal sized tires on trucks.

Such and other valuable data, centered in the Akron bureau of Firestone, is available from its bureaus everywhere.

Remarkable Showing of Shipping by Truck

This was a remarkable full page advertisement which the Firestone Ship-by-Truck Bureau had in Los Angeles newspapers the other day. The advertisement listed 34 motor truck routes out of Los Angeles, ranging from short distances to 262 miles (to San Diego) for the round trip. One of the busiest is between the city proper and its harbor in San Pedro, 46 miles round trip.

No fewer than 82 motor truck transportation companies are operated on the 34 designated routes; there are 12 "anywhere, any time" concerns, including the large Los Angeles Transfer Co.

Twenty bus transportation companies are listed. One, owned by the Southern Pacific Railway Co., it is said, runs stages north on the coast to San Francisco and south to San Diego. Several lines cover the extensive Orange Belt section, beginning some 60 miles east of Los Angeles. One runs to San Francisco via the inland route. Practically all busy points in Southern California are reached.

Data is not at hand as to the volume of traffic, but it is tremendous. Multiply the business of this one section by many, and it is easy to imagine the truly remarkable total. There are several thousand motor truck transportation companies in the country, and they are increasing rapidly. Older methods of handling traffic, especially freight, are being revolutionized. Number of handlings is reduced to the minimum and practically in every case the shipment goes from the consignor directly to the consignee. Breakage and loss is at the minimum.

More and more, advisory service as to shipping by truck is being sought from the Firestone bureaus in various cities. Their work in this respect is a notable contribution to local and national welfare.

Leisurely, Cheap Trip of Chevrolet Truck

H. V. Davis and A. Harris, both of Marion, O., recently arrived at Yakima, Wash., in a Chevrolet one-ton truck loaded with household goods and equipment in the amount of 3,000 pounds.

They traveled leisurely, stopping at places of interest, and made the run in 21 days. They had occasion to tow a six-cylinder car for twelve miles and pulled several others out of mud holes, which they had been able to negotiate with ease.

The total expense outside of gas and oil, was 25 cents. This was paid for cleaning battery terminals. They averaged better than ten miles to the gallon of gasoline, covered more than 100 miles per day while traveling and arrived at Yakima with the original air in their tires.

Order $22,000,000 Worth of Traffic Trucks

Wishes of Christmas cheer and abounding optimism over the outlook for the new year are contained in recent announcements sent forth by the Traffic Motor Truck Corp., of St. Louis, Mo. The company's dealers recently in less than twenty minutes asked for $22,000,000 worth of Traffic trucks for 1920. All Traffic employes have been rewarded for their part in the company's success and a minimum wage scale of $5 a day now prevails at the St. Louis factory.

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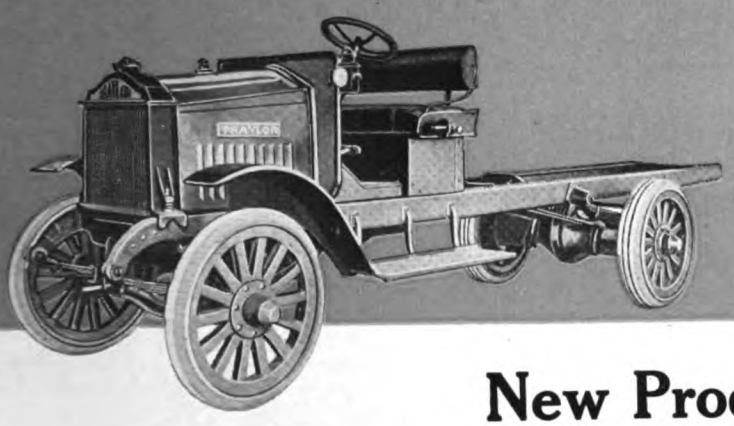
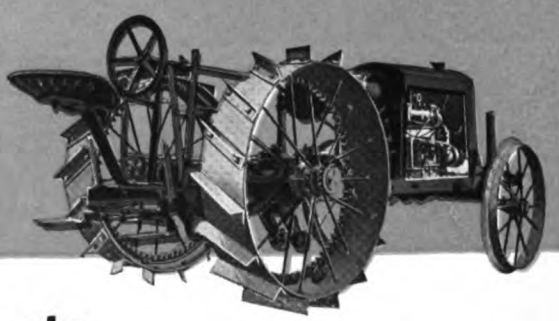
TRAYLOR

TRUCKS AND FARM TRACTORS





New Products of an Old Organization

THE Traylor Engineering and Manufacturing Company, in a sense, has been mustered out of the nation's service. Its uniform is in the closet—its rifle behind the door. Its work of producing ships, engines and shells is over. It turns NOW to the no more necessary but the much more useful pursuits of peace—the manufacture of TRAYLOR TRUCKS and FARM TRACTORS.

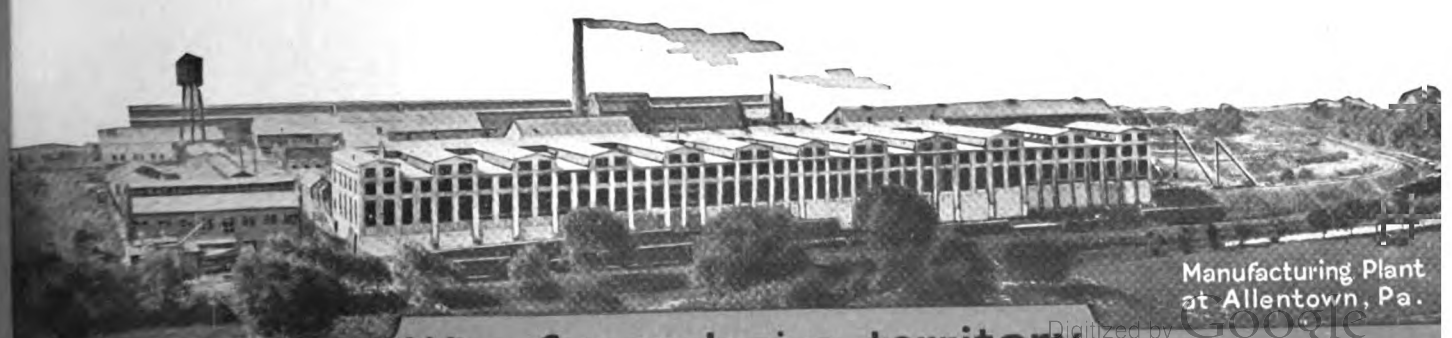
And the manufacture of these new products is the sequel to a story of industrial achievement that places the Traylor Engineering and Manufacturing Co. in the forefront of all engineering and manufacturing enterprise.

Beginning its career in a small plant at Orange, N. J., moving soon after to larger quarters at Belleville, N. J., and then moving on after only a brief stay to the present plant site at Allentown, the rise of the Traylor Engineering and Manufacturing Company to its present position of importance has been a rapid one.

The Traylor organization established for itself an enviable reputation as the builder of high grade crushing, mining, milling and cement machinery. It made the name "TRAYLOR" a hallmark of engineering and manufacturing efficiency everywhere. Its products were shipped to the four quarters of the globe.

It was logical, therefore, that the Traylor Engineering and Manufacturing Company should lay plans for the production of the TRAYLOR TRUCK. It had the plant and the organization. It had well defined ideas of what a good motor truck should be and its plans for putting the TRAYLOR TRUCK on the market were complete.

But then came the first low rumble of war —the first big demand for war equipment.



Manufacturing Plant at Allentown, Pa.

Wire for exclusive territory

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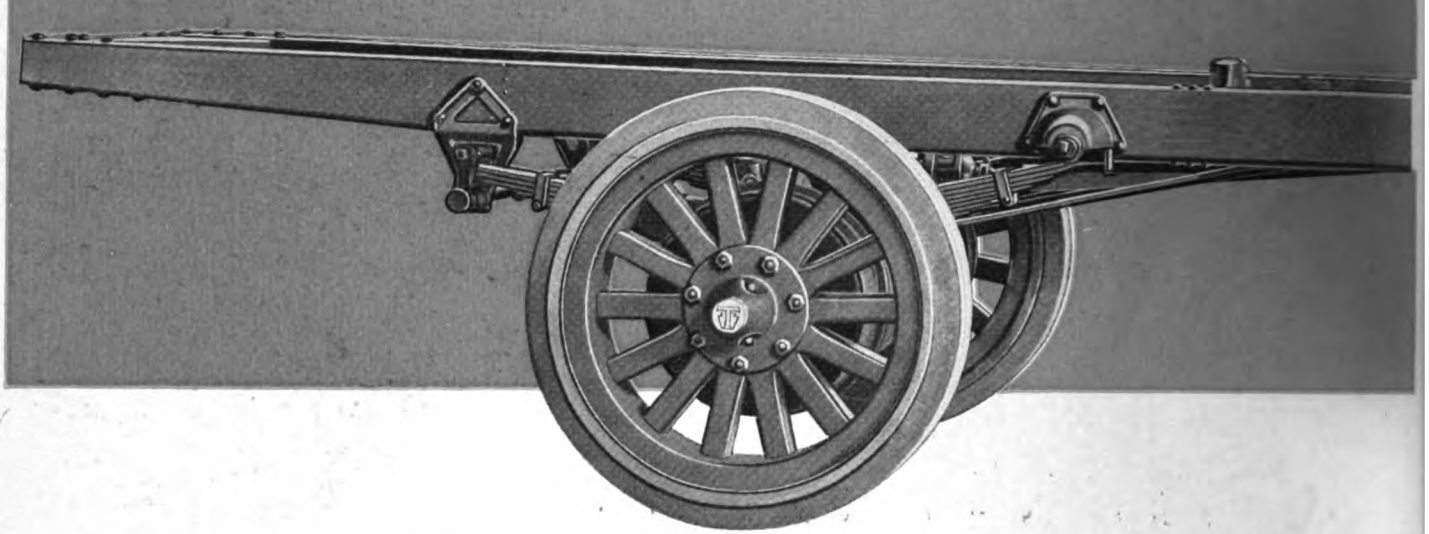
TRAYLOR TRUCKS



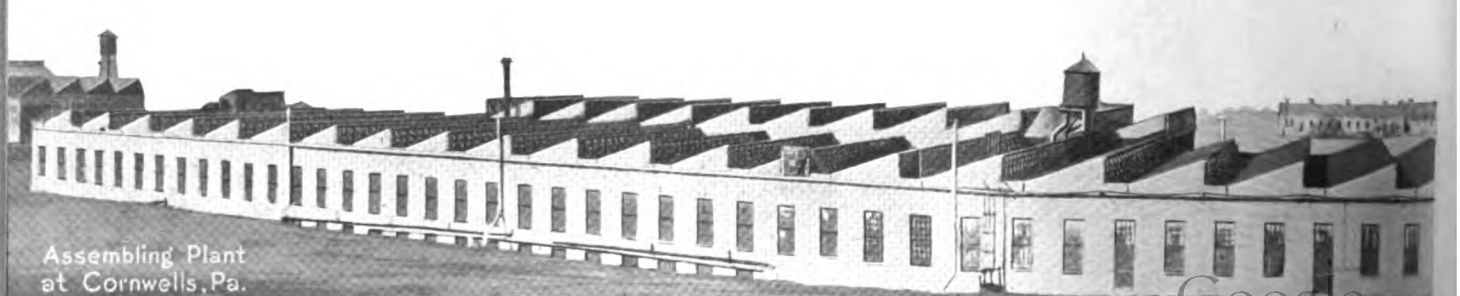
And the plans for TRAYLOR TRUCKS were laid aside.

Instead of TRAYLOR TRUCKS there were produced Traylor Shells. Traylor Shells were among the first to scream over enemy lines. The Traylor organization not only made good but made records while making good. It not only produced shells on time, but ahead of time.

But that wasn't all. America needed ships. And the Traylor organization—an efficient corps of engineers and manufacturers, but not shipbuilders—took another hitch in its belt and produced them. It enjoys the distinction of being among the last to secure a ship contract and being among the first to produce a ship. And it continued to produce ships at the rate of one a month for the duration of the war, and none came back after it left the ways!

But now that its war work is over, the Traylor Engineering and Manufacturing Company is proceeding with the manufacture of the TRAYLOR TRUCK and an added feature that has been planned and developed during the war period — the TRAYLOR FARM TRACTOR.

Under the supervision of W. C. Guilder, General Manager, formerly manager of the Mack Works of the International Motor Corporation and of the Kelly-Springfield Motor Truck Company, and W. S. Stevenson,



Assembling Plant at Cornwells, Pa.

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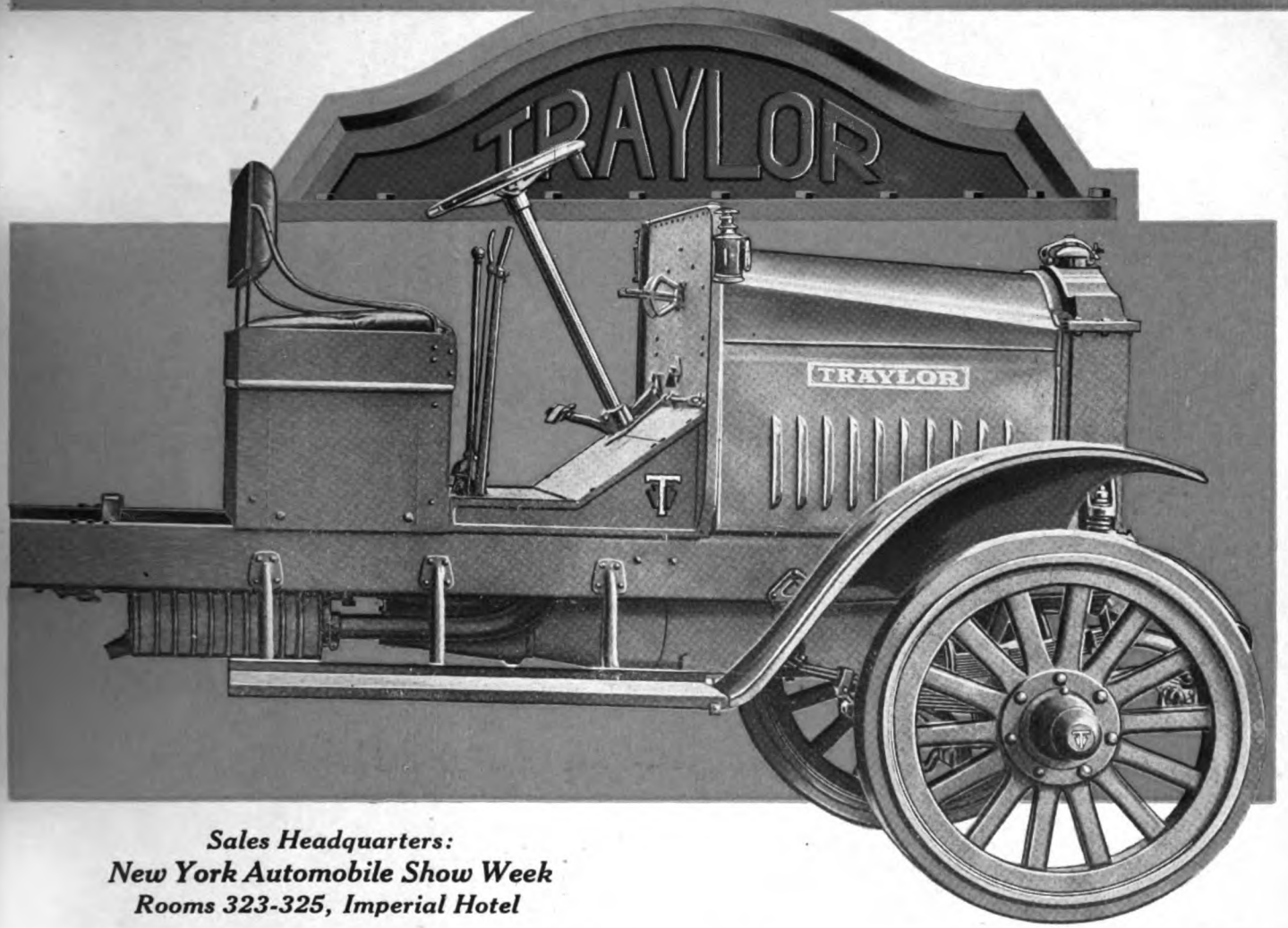
Wire for exclusive territory



Sales Headquarters:
New York Automobile Show Week
Rooms 323-325, Imperial Hotel

General Sales Agent, for fifteen years General Sales Manager of two of the largest truck factories in the country, the **TRAYLOR TRUCK** and the **TRAYLOR FARM TRACTOR** are being produced and marketed.

The enormous plant used by the company at Cornwells for shipbuilding purposes during the war period has been released and is now in use as an assembling plant. Coupled with the Allentown plant, now used for manufacturing purposes, this gives the Traylor organization unusual housing facilities. Both of these plants are in operation now. Production has already started. **TRAYLOR TRUCKS** are being produced in one ton, one and one-half ton, two and one-half ton and three and one-half ton sizes.

Built throughout of standard equipment, and backed by an organization whose name insures continued production and always available service for the truck owner, the position of the **TRAYLOR** in the motor truck field is assured.

The construction of the **TRAYLOR** is all that the truck owner or the dealer could desire. It is actually the composite form of an assembly of the best equipment that the automotive industry has so far produced.

It offers unusual opportunities for the dealers who secure rights for the exclusive territories that are now open.

Wire for exclusive territory

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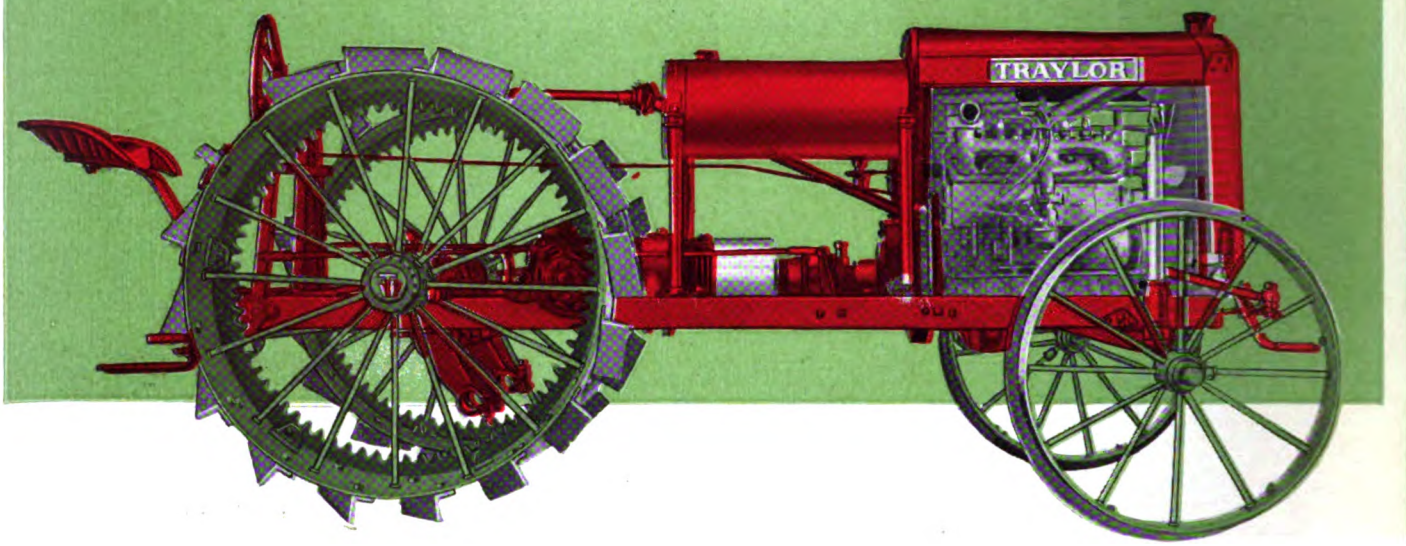
TRAYLOR

FARM TRACTORS



THE TRAYLOR FARM TRACTOR —Model 6-12—is a combination tractor and cultivator. It can be easily and quickly adjusted from its normal clearance of fourteen inches to one of twenty-seven inches for cultivating. This is an exclusive TRAYLOR feature and places this farm tractor in a class by itself.

Some of the specifications are—Rating 6 H. P. at the draw bar—12 H. P. at the belt—Weight approximately 1700 pounds.

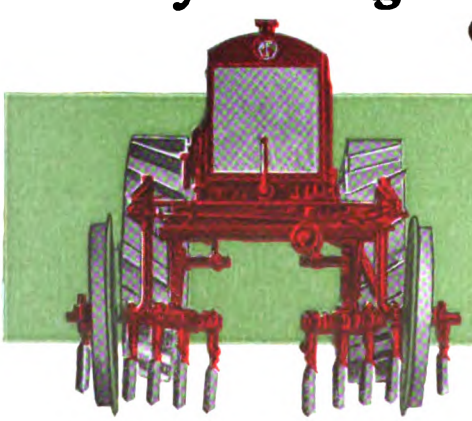
The TRAYLOR FARM TRACTOR is a light-weight tractor, economical in operation, low in price and big in possibilities for the farmer and for the dealer who secures exclusive territory rights.

Price, Model 6-12, f. o. b. Cornwells, Pa., $750

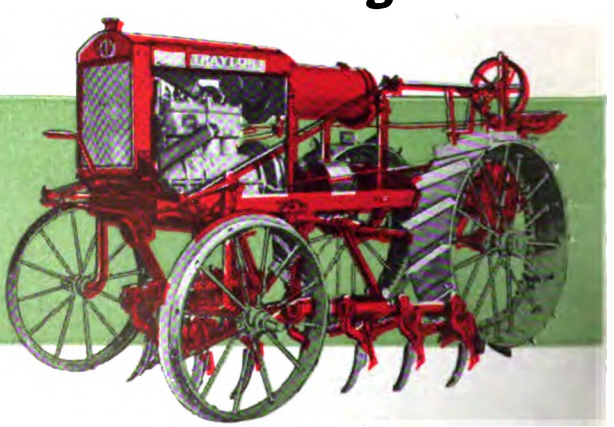
During New York Automobile Show Week, January 3-10, see the TRAYLOR FARM TRACTOR on display—7th floor, Grand Central Palace. Sales Headquarters during Automobile Show Week—Rooms 323-325, Imperial Hotel.

Traylor Engineering and Manufacturing Co.

Cornwells, Penna.



TRAYLOR FARM TRACTOR in elevated position with cultivator attached. Note the front view —27 inch clearance under frame.



Wire for exclusive territory

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The "Driver Under the Hood"

The "Driver Under the Hood" is not an ordinary governor. It automatically and skillfully regulates the flow of power to immediately meet every changing road or load condition. It keeps the speed constant, prevents racing of the motor and clashing of gears.

NO OTHER TRUCK HAS IT

How the "Driver Under the Hood" Saves Effort

About all the driver of a Clydesdale truck has to do is watch the road and steer. There is a "Driver Under the Hood", an automatic controller, which performs most of his work.

When once the truck is set for a desired speed, the "Driver Under the Hood" automatically maintains that speed no matter if the road leads up hill, down hill or through mud or sand.

This little instrument makes it impossible to race the motor even when the clutch is jammed out suddenly; and by preventing clashing of gears, makes shifting speeds an easy operation.

It is impossible to appreciate, without actually seeing a Clydesdale in operation, the amazing way in which this "Driver Under the Hood" saves effort. But ask the driver of any Clydesdale truck to tell you what *he* thinks of it.

The Clydesdale dealer proposition is a particularly alluring one.

1 to 5 Ton Capacities

THE CLYDESDALE MOTOR TRUCK CO.
CLYDE, OHIO

CLYDESDALE

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Duplex Puts Out Small Truck

Supplements Famous Four-Wheel-Drive With a 3000-Pound Worm-Drive Job, the Duplex Limited

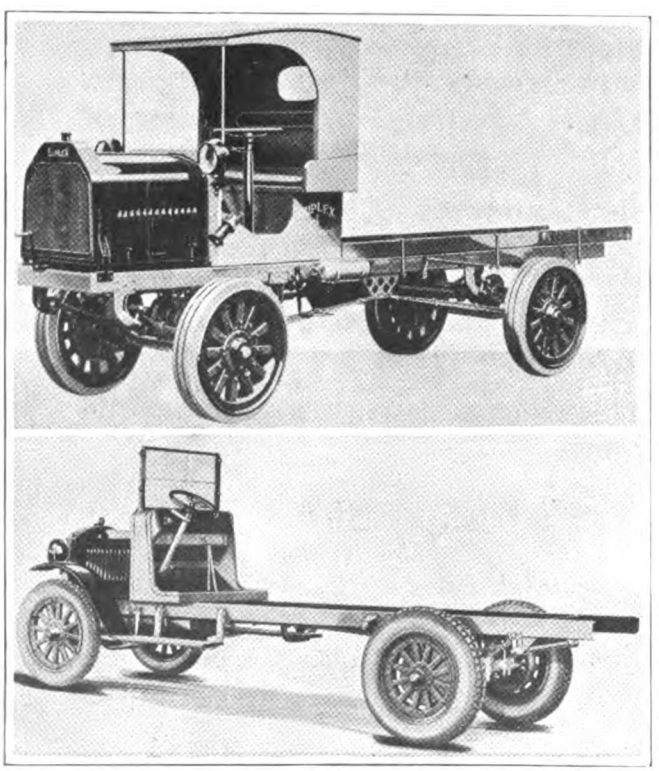
IN ADDITION to its famous Four-Wheel Drive job, the Duplex Truck Co., Lansing, Mich., has, after three years of careful and far-reaching investigation and testing, evolved a medium capacity continuous service model, capable of running at high rates of speed. The company's designers found that a construction intended for slow, heavy hauling does not stand up under the extra strains imposed by high speeds.

Enter the new Duplex Limited!—a 3000-pound worm-drive job with a speed range of 5 to 30 m.p.h. The new model has a four-cylinder enclosed type motor, with a 4-inch more and a 5¼-inch stroke. It is equipped with the Westinghouse starting-lighting system and a 1¼-inch Stromberg carburetor, and carries fuel in an 18-gallon tank located under the cowl. The special Duplex radiator with cast tanks, finned head and Spirex core, supplemented by an 18-inch fan, takes care of the cooling problem.

Lubrication is by force and splash feed. The rear axle is the straight or David Brown type of worm gear, with 5.51 ratio. Springs are semi-elliptic, front and rear. The heavy artillery type wheels are shod with pneumatic cord tires—35x5 front and 38x7 rear. The wheel-base is 145 inches.

Included in the equipment are windshield, electric lighting and starting, ammeter, Boyco Moto-meter, speedometer, electric horn, grease gun, front fenders, driver's seat and the usual kit of tools, and a power tire pump will be installed at an additional charge. The price of the Duplex Limited is $2575 f. o. b. Lansing.

The high card in the company's line will, of course, be the Duplex Four-Wheel Drive truck, a 3½-ton job which has proved its merit in every section of the United States. With a wheel-base of 130 inches, it has an over-all length of 223½ inches, with a turning radius of 30 feet. Its four-cylinder 40-horsepower Buda motor has a 4¼-inch bore and a 5½-inch stroke—an extremely effective power plant. Other specifications include Eisemann high-tension magneto, Schebler float-feed type carburetor, positive clutch type transmission, etc. A silent chain drive gives a choice of two reductions—1-to-1 or 2-to-1—from all speeds obtainable in transmission. There is a shaft drive with two universal joints from engine to chain case, and a shaft drive with two universal joints each from chain case to front and rear axles. The Duplex Four-Wheel Drive is listed at $4000 f. o. b. factory.



(UPPER) DUPLEX 3½-TON FOUR-WHEEL-DRIVE TRUCK.
(LOWER) 3000-POUND WORM-DRIVE DUPLEX LIMITED.

Goodrich Now Furnishing Highway Transport Data

Prompted by a growing demand for highway information and charts from highway transportation engineers and advocates, the National Touring Bureau of the B. F. Goodrich Rubber Co. announces that its scope of operation will be broadened to include the dissemination and distribution of all highway transport data.

Henceforth it will be known as the Goodrich Travel and Transport Bureau. The new institution will strictly adhere to the following policy: "To promote highway transport service and to co-operate with all forms of transportation by land, water and air, in obtaining a more extended and efficient use of their respective facilities."

Through its country-wide organization of branches, depots and dealers the bureau has distributed upwards of 150,000,000 pieces of touring information to the motoring public and its accomplishments in stimulating touring has been one of the biggest individual efforts toward increasing good roads building. During 1919 it distributed nearly 5,000,000 state highway maps.

Raymond Beck, who acted as field engineer of the U. S. Highways Transport Committee during the war, has been chief of the bureau since its inception—in 1911. Among the highway transportation experts on the Travel and Transport Bureau advisory board are: Robert C. Hargreaves, formerly secretary of the Highway Transport Committee, and S. V. Norton, Goodrich truck tire sales manager and author of "The Motor Truck as an Aid to Business Profits," and "Motor Trucks of America."

Bethlehem Announces New ¾-Ton Model

Announcement of the addition to its line of a ¾-ton model has just been made by the Bethlehem Motors Corporation, Allentown, Pa. The line has included in the past the 1½-ton, 2½-ton, and 3½-ton models. The latest member of the Bethlehem family is of high quality from radiator to tail light. Included in its specifications are electric starting, electric lighting, and a specially-designed Bethlehem motor, Bosch magneto, bronze-backed motor bearings, Spicer drive shaft, bevel gear rear axle, Ross steering gear, chrome vanadium steel springs, semi-flexible frame, Meyers magazine oiling system, cord pneumatic tires, 35 by 4½ front, and 35 by 5, rear. The company places the list price of the new truck at $1,495 for chassis only. Any type of body may be added locally without chassis interference. The company will offer a standard combination body, of which the foundation is an open express body, and to this body may be fitted a cattle rack, grain sides, and a canopy top, thus giving an all-purpose body of four or five different combinations.

Selden Trucks Pay Dividends

At a meeting of the directors of the Selden Truck Corp., held December 1, 1919, the regular quarterly dividend of 2 per cent on the first preferred stock of this company was declared payable January 2, 1920. The regular quarterly dividend of 2½ per cent on the second preferred stock was declared payable on January 2, 1920. The books of the company closed on the evening of December 16, 1919.

The Duplex Truck Co. directors recently declared a 10 per cent cash dividend—its first, payable November 15 to shareholders of record October 31.

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Wilson dependable MOTOR TRUCKS

at the

National Truck Shows

New York, January 3--10
Chicago, January 24--31

A complete line of Wilson dependable Motor Trucks will be exhibited at the New York and Chicago National Automobile and Truck Shows.

The New York exhibit will be held on January 3rd to 10th in the Eighth Coast Artillery Armory, 194th Street and Jerome Avenue and can be reached by the Lexington Avenue Subway, or the Sixth or Ninth Avenue Elevated Roads.

The Chicago exhibit will be held in the International Amphitheatre, reached by the South Side Elevated Road.

1½, 2½, 3½ and 5 tons Capacity---All Worm Drive

J. C. WILSON COMPANY

DETROIT, U. S. A.

36th Year

COMMERCIAL VEHICLE MANUFACTURERS

Please Mention "Motor West" When Writing to the Advertiser

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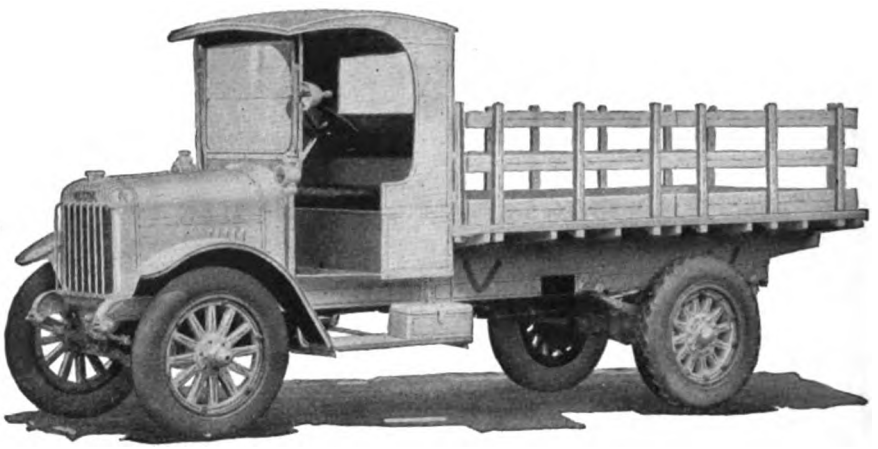
WOLVERINE

Some Good Dealers Territory is still open.



If interested, wire or write at once, as all territory will be covered very soon.

The Truck of Good Service

An up-to-date truck in every respect which will give 100% service to the owner. Fully equipped with electric starting and lighting system including a searchlight.

MANUFACTURED BY

AMERICAN COMMERCIAL CAR COMPANY

DETROIT, MICH.

HEADIN' WEST!

Electric Starting and Lighting

1½ 2½ 3½ Tons

The "KALAMAZOO"

"The Hand-Made Truck"

Unsurpassed opportunities for West Coast Distribution. Write—

Kalamazoo Motors Corporation, Motor Truck Division, **Kalamazoo, Michigan**

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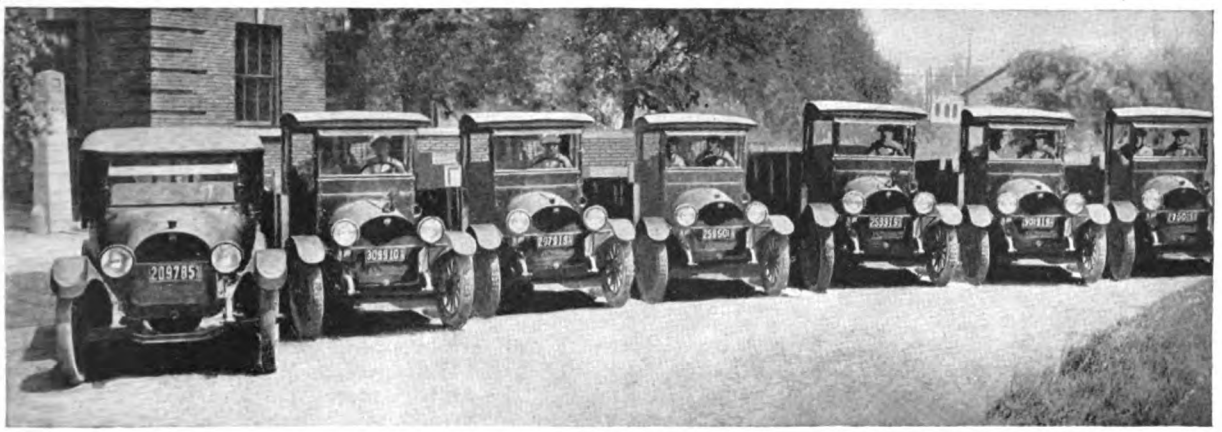
REO



TELEPHONE 4000

CITY OF EVANSTON
DEPARTMENT OF STREETS
EVANSTON, ILLINOIS

ROBERT M. BROWN
COMMISSIONER

July 15th, 1919.

Our Street Department has in service five two ton, Model "J" Reo trucks and one Model "S" Reo Roadster.

The two trucks first purchased, equipped with Lee automatic side dump three yard steel bodies entered service April 2'd, 1918. One of these was wrecked August 8th, 1918 and replaced August 24th, 1918.

On July 26th, 1918, our Special Garbage Truck entered service, equipped with a wooden body designed to carry 120 garbage cans of one cubic foot each.

On March 26th and April 9th, 1919 two more trucks entered service. These are equipped with three yard Woods' hydraulic hoist rear dump steel bodies.

The roadster entered service May 14th. 1918.

These trucks have hauled crushed stone, sand, cinders, coal, ashes, rubbish and garbage continuously over paved and unpaved streets and alleys in all kinds of weather.

The consumption of gas and oil has been low, the repairs small and I consider the results remarkably good.

I am told the Model "F" truck, in service from March 26th, 1919, equipped with hand hoist rear dump steel body and operated by the Sewer Department is giving equally good results.

Robert M. Brown

Commissioner of Streets

"THE GOLD STANDARD OF VALUES"

Reo Motor Car Company
Lansing, Michigan

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Pays to Have Wizards Around Tractors

Take it from Kennedy Reeves, who formerly did contract work with tractors in the Imperial Valley, that it pays to have one or more mechanical wizards around, and that it does not pay to pay too little to get good operators. The man who anticipates trouble and corrects tendencies toward it is a good man to invest in, he found. He had a big outfit, and he found the profitable thing was to keep them rolling. Incidentally, he is a believer in large tractors for contract work. He and another man operated three large ones and had good helpers, and rarely were held up for repairs. On a nearby tract there were 15 smaller tractors, not so well manned, and often all but two or three of them were laid off.

Mr. Reeves is a very practical person. He now lives in Los Angeles, grows beans on a 125-acre ranch in San Fernando Valley, and personally directs the operator of his 60-horsepower Caterpillar, brought from the Imperial, and which he finds desirable even for farm work. The San Fernando practice is to let the ground lie all winter, and along in March to work it over five or six times, to get a perfect bed for May planting. Horses, he says, might do the spring seed bed work satisfactorily, but for deep dry plowing in the fall a good tractor is essential.

He finds a double roller disk necessary to thoroughly pulverize a seed bed and give a more uniform moisture condition. Both double disks and chisel cultivators are used in the vicinity, the latter being favored due to a belief that the disk throws up too much soil and that the chisel stirs it up without bringing too much moist soil to the surface. The double disk, however, is necessary where there is much weed growth.

Tractor School at Riverside, February 23-28

Invitation is extended to all who own tractors or are thinking of owning them, to attend the short tractor course at Riverside, February 23-28. It will cost only $1. It will be held at the citrus experiment station, by the College of Agriculture of the University of California. It will cover the principle of the gas engine, timing of valves and ignition, carburetor adjustment, and so on. Points about various types and styles of tractors will be shown. Ten or more makes will be used, and opportunity given each student to study and operate every one. There will be lecture-demonstrations every morning from 8 to 9:15 and every afternoon from 1 to 2:15, and practice demonstrations at other times. Motion pictures of tractors at work will be shown in the evenings.

Tractors Too Speedy for Winds

Leveling desert land near Muroc, in California's Antelope Valley, is slow work with horses. The desert is high and the winds are vigorous competitors. So the owners of a large tract, desiring to plant it to alfalfa, tackled the job with tractors and land levelers adapted to tractors, and great progress was made.

Ford Tractor Plant at Vancouver

The Ford Motor Co., of Detroit, is considering the building of a tractor plant at Vancouver, Wash., a city some ten miles north of Portland, Ore., if negotiations with local authorities terminate satisfactorily. The Ford plant would need 75 acres of land and 50,000 horsepower of electricity for operating purposes.

Splitdorf Dixie Magneto for Fordson Tractor

One of the neatest and most effective easy-starting ignition appliances yet produced for the Fordson is the new Splitdorf-Dixie Model 46 fitted with Model B impulse starter coupling. One slow turn of the crank of the Fordson engine gives ignition results ordinarily had at 500 revolutions per minute due to the impulse starter giving a quick spin to the magneto rotor shaft. The new outfit is chain driven from the front end of the crankshaft, the unit being located on the left side of the engine where it is away from exhaust heat, a most important advantage when the destructive effect of the heat is considered. The heat quickly destroys distributor blocks and reduces the magnetic life of the magnets. In the new Splitdorf-Dixie this all has been eliminated.

All that is needed for installation is a wrench. No holes need be drilled, or any parts removed or discarded. The magneto rests on a support which itself is braced by brackets attached to the crankcase. The instrument is driven by a short shaft, at one end of which is an adjustable coupling and at the other two bronze bearings mounted on either side of a 16-tooth sprocket. This sprocket is driven by a Whitney silent chain from another sprocket at the forward end of the camshaft. The silent chain is protected by a guard which is provided with an oil hole so that the chain may be given an occasional oiling. The chain is easily adjusted.

Eight Dealer Demonstrations to be Held

The California Tractor and Implement Association has adopted a new demonstration plan. The assessments on members for last year's collective demonstration at Sacramento cost more than $16,000. By adopting the report of the executive committee, a $12,000 fund will be used for the expense of an expert manager and for maintaining the San Francisco office, and eight demonstrations will be held, the proposed places being Fresno, San Jose, Salinas, Stockton, Sacramento, Marysville, Chico and Santa Rosa.

George Collins will be manager. He managed the highly successful still exhibit at the California State Fair in September. The executive committee recommended him for his confidence in the association, his trustworthiness and his optimistic enthusiasm for the tractor industry.

California as a Tractor Manufacturing Center

Oakland, Marysville, Stockton and other cities in Northern California have tractor plants which are a revelation to those who do not know that the state is in the tractor manufacturing business on a large scale. This is also true of Southern California. In addition to some of the most widely known machines in the world being designed in California, some of them are also made here. In the General Motors Corp. plant in the East, a California designed tractor now is being manufactured.

One Way to Get Good Tractor Operators

Fifty-five men who served in the war took the tractor course of the University of California at the university farm at Davis, Cal. Some of these are taking the advanced work. At Davis there are six teachers, giving instruction with 13 tractors, on operation and repair of gas tractors. Employers desiring operators may get in touch with these men by writing to the agricultural engineering division, University of California farm, Davis.

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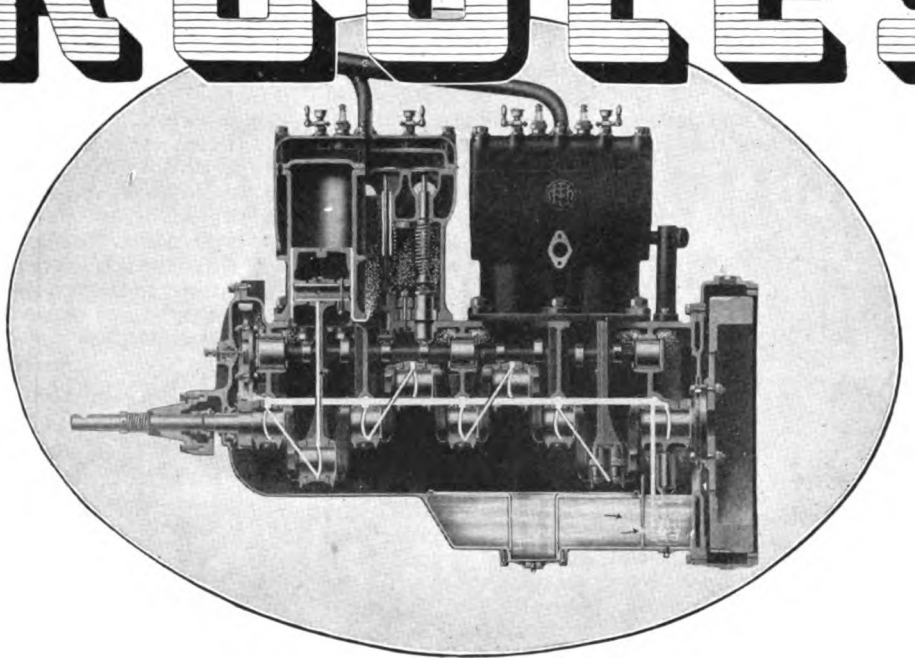
HERCULES

for Trucks and Tractors



The Oil is Forced to Every Bearing!

Because it is the only positive method to lead the lubricant to the points where bearing pressures are greatest.

Because it is the only method to insure that the undesirable heat generated by the friction of each bearing is carried away with the desirable rapidity.

Because it is the only positive method to control and regulate with that degree of accuracy necessary to insure every bearing having its full quota of oil, while positively preventing excessive oil consumption and consequent fouling of spark plugs.

Because the simple oil pressure gauge will at all times give the driver that confidence which can only come when he knows that each bearing is being properly supplied with oil.

See Hercules at the Chicago and New York Shows

In the Hercules design all this is accomplished without the added complications of separate oil pipes and connections by a simple fool-proof system of cast-in tubes and drilled oil ducts.

Remember that faulty lubrication takes its toll in trouble, time and money.

The Hercules Motor Mfg. Company
Canton **Ohio**

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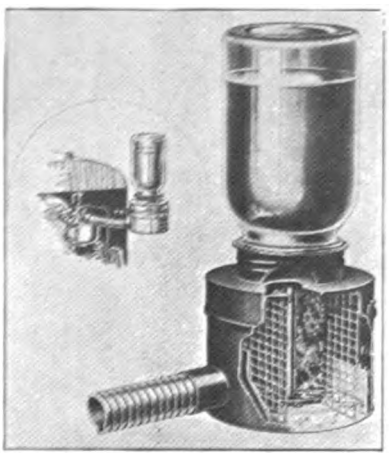
Midwest Air Cleaner Keeps Dust Out of Carburetor

The wear in an engine properly lubricated is caused by dust getting into the oil, making an abrasive or grinding compound, which soon wears out the bearings, cylinder and piston walls. As a cylinder full of air passes through the carburetor 500 to 600 times a minute, a very small amount of dust in the air will build up on the oil surface and cause excessive wear in any engine. If the so-called carbon which accumulates in the cylinder and combustion chamber is weighed and burned, a large amount of ash would be left, showing that much of the carbon is a combination of oil and dust.

To keep the dirt out of the Utilitor cylinder and crankcase, the Midwest Engine Co., Indianapolis, Ind., has perfected the Midwest Air Cleaner, which performs its function perfectly. Dry cleaners will not remove the impalpable dust from the air, because this dust is not heavy enough to precipitate by centrifugal force or even by gravity. Wet cleaners, in which the air passes under and through water, will only remove all the dust when the bubbles are infinitesimally small or no larger than the atoms of air, which float in the bubbles and when broken up in such a mist or spray the air carries much of the water into the engine. The method of cleaning the air in the Midwest Cleaner is to draw it through the intricate pores of a wet sponge saturated through its capillarity by resting in about one-fourth of an inch of water maintained automatically and supplied from the transparent reservoir above.



MIDWEST AIR CLEANER.

As the air zigzags through the pores the dust is caught by the wet surface and held on the surface of and in the pores of the sponge until washed out once or twice a day, depending upon the amount of dust in the air .

As the cleaner is used dust will begin to work through the sponge, and if the day is very dusty the dirt may penetrate one-fourth the way through the sponge. Every time the reservoir is filled, which will be once or twice a day, the sponge should be taken out and thoroughly washed in a bucket of water, put back and the reservoir put in place. There is a hole through the sponge for the feed pipe. When the reservoir is inverted water will flow in the sponge cup until the end of the tube is covered, and as the water passes up by capillary attraction through the interstices and pores, wetting every surface, more water will be fed to the sponge cup. The reason why so little water is taken up by the air in this cleaner is because it cannot pick up globules of water. The air passing through the sponge not only has its humidity increased, but leaves behind all foreign matter which is the cause of wear.

Green to Distribute Monarchs

Robert H. Green has been appointed distributor for the Monarch tractor, made by the General Tractors, Inc., while C. S. Anthony continues in Los Angeles as sub-distributor. C. G. Wuthrich, Southern California distributor, has been transferred to Canadian territory.

Two California Branches for Cletrac

The Cleveland Tractor Co., of Cleveland, O., has lately announced the opening of factory branches in both San Francisco and Los Angeles, inaddition to its branch at Spokane, Wash. Both California branches carry $50,000 worth of Cletrac tractor parts.

American Tractors to Farm the World

More than 314,000 motor tractors for farm use will be manufactured in the United States this year, according to the estimate of the Agricultural Department. Ninety thousand of these tractors, representing about $100,000,000, will be sent abroad to increase the crop production of nearly every country in the world. Working with a tractor one man can do more work than six men, thirty horses, or a hundred oxen, under the old-fashioned methods formerly in vogue. This will make up, in a large way, in Europe, for the shortage of men caused by the war.

Practically all tractors have magneto ignition, because of its intense spark, simplicity and reliability. It would be impossible, in foreign lands, to use any other form of ignition. The sturdiness of the magneto enables it to withstand rough usage, and, being a self-contained generator of electrical energy which requires no attention or replenishing, it has made the use of American tractors possible everywhere.

Good Idea to Apply to Tractors

The British motor transport had a high morale among its drivers on the Flanders front. The convoy of trucks, clean, spick and span, well painted, with good cabs for the drivers, with good rain aprons, moved along as majestically as a limited train pulls out of San Francisco for Los Angeles. The drivers were well uniformed, clean-shaven and happy. They were as proud of their trucks as the pilot of his chassis plane. The truck was as much to the driver as the well polished 77 mm. gun was to the gunner. The truck driver was proud of his machine, proud of his job and proud of the link he constituted in the military organization. Let us apply this to farm tractors.

Annual Tractor Show Sanctioned by M. & A. M.

Arrangements have been made with the Kansas City Tractor Club whereby members of the Motor and Accessory Manufacturers Association are to participate in the Fifth Annual Tractor Show to be held in Kansas City from February 16th to 21st, inclusive, 1920.

In view of the great progress made in the tractor industry within the last few years and the nation-wide interest evinced in the National Tractor Show, it was decided by the directors of the Motor and Accessory Manufacturers Association to add this exhibition to the list of sanctioned shows.

Better to Shoot Trouble than Reap It

You cannot get something for nothing, is the conclusion to be drawn from a census of objections against tractors, gathered by the Department of Agriculture, which found such objections due to difficulty in operation; which of course was due to lack of knowledge. The man who buys a tractor, starts it down the field and expects it to do its own thinking reaps disappointment. It would pay him to either hire an operator whom he knows to be capable, or to get the knowledge himself. The latter is a good plan anyway. Many farmers go into the tractor service department of an agency and help "shoot trouble" during a week or so before attempting to run their own machines.

Changes in Ford System Next Year

A. W. L. Gilpin, manager of the Milwaukee branch of the Ford Motor Co., maker of the Fordson tractor, states that on August 1, 1920, branches will relieve the main works of final assembly as well as marketing. Plans for a $1.000,000 enlargement of the Milwaukee plant are announced.

Stockton Tractor Enters Southland

The Stockton tractor, built in the Central California city of that name by the Stockton Tractor Co., has been taken for Southern California by A. B. Johnson, located at 231 N. Los Angeles St., Los Angeles.

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At the coming National New York and Chicago Truck Shows, the Smith Wheel exhibit will be found on the various makes of Trucks shown.

Compare such exhibits with others, in total number, representativeness of makers and capacity of Trucks.

You will thus gain some idea of how rapidly Smith Wheels are increasing in popularity with the Trade.

The story, told in this way, no one can question.

[Syracuse, N. Y., December 15, 1919]

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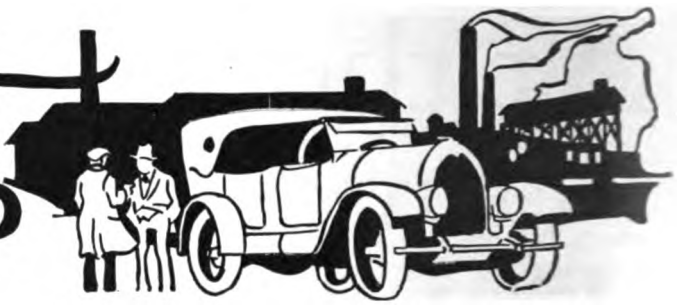
Trade Briefs & Factory Gossip



Boyce Forms New Company.

Harrison H. Boyce of the Moto-Meter Co., Inc., Long Island City, N. Y., has formed a new company the name of which will be the "Boyce-Veeder Corporation," having its factory and office in Long Island City, for the marketing of an automatic and hand operating fire extinguisher especially applicable to motor cars, trucks, tractors, aeroplanes and other automotive vehicles. The new company will operate under the "Erwin" patents, and the device is said to be of a very novel and most meritorious nature. Associated with Mr. Boyce will be Paul L. Veeder, an attorney well known in both New York and Chicago. Offices have already been opened in the Queens Subway building, Long Island City. It is stated that production will be in full swing January 1. Mr. Boyce plans to divide his time between the new organization and the Moto-Meter Company, Inc.

James A. Abeles, well known in the automotive field as former vice-president and general manager of the Motor Car Equipment Co., and more recently organizer of an Eastern house for the Beckley-Ralston Co., of Chicago, has joined forces with the Boyce-Veeder Corporation, who will manufacture and market the new Boyce Fire Extinguisher.

* * *

Friend Takes Over Olympian.

Friend Motors Co., Inc., has succeeded the Olympian Motors Co., of Pontiac, Mich., the change representing the taking over of the older company by Otis C. Friend, recently a high official of General Motors. For 1920 the new company plans a conservative production of 3,500 cars. It is capitalized at $2,000,000, all in 8 per cent preferred stock.

* * *

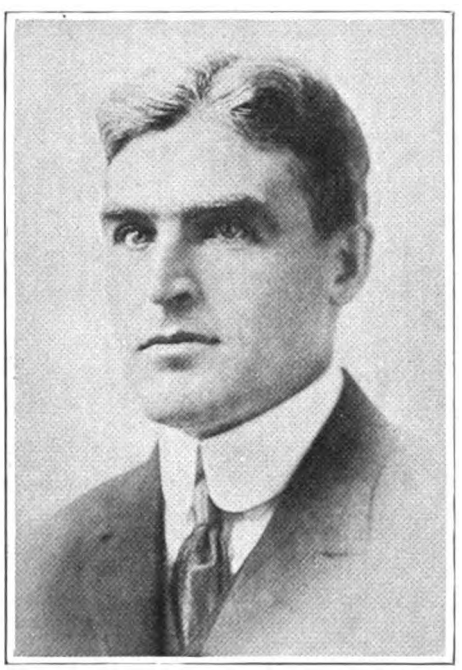
Bay Heads Cotta Sales.

New extensive sales arrangements have been made by the Cotta Transmission Co., of Rockford, Ill., largest exclusive maker of truck and tractor transmissions. D. W. Bay has been made sales manager; he was formerly sales engineer of the motor bearings division of the Hyatt Roller Bearing Co. F. W. Ramey is his assistant. W. J. McLaughlin, formerly with Continental Motors, has charge of production.

* * *

Jackson Motors Strengthens Staff.

Jackson Motors Corp. has secured the services of E. M. Benedict as works manager and Guy C. Core as advertising manager. The Jackson program is for 3,000 of the new series Jackson Six by July 1, 1920, as well as several hundred of the 3½-ton Jackson Four-Wheel Drive trucks. Mr. Benedict, who will have this work in charge, comes to the Jackson company from the Hayes Wheel Co., where he was responsible for production in the world's largest wheel company. Mr. Core, as director of publicity and advertising, for the past two and one-half years has been with the Briscoe Motor Corp., and before that served in a similar capacity with the Springfield Body Co. and the Redden Motor Truck Mfg. Co.



W. J. McANEENY,
President of Essex Motors, Detroit, Mich.

Norma Co. Increases Production.

On December 10 the Norma Co. of America manufacturers of "Norma" Precision Bearings, moved its factory from the Bronx, New York City, to Anable Ave., Long Island City, N. Y., where a modern four-story reinforced concrete building has been acquired. Under the new arrangement a largely increased factory space is secured, making possible the increased output of "Norma" Bearings necessitated by the growing demand for these high-precision units. The new plant is being rapidly equipped with the special machines needed for precision manufacture, and the full capacity will be available shortly. The executive offices at 1790 Broadway are consolidated with the factory at the new address.

Herschell-Spillman Motor Expansion.

The Herschell-Spillman Motor Co., Tonawanda, N. Y., is enlarging its plant and business plans to make it more than ever one of the foremost manufacturers of gasoline engines for automotive uses. The value of its production will exceed $10,000,000 annually. It is putting $500,000 into new machinery alone. It will employ nearly 1000 expert mechanics and will make 200 instead of 100 engines daily.

The company's famous 8-cylinder motor is in many of the high grade passenger cars. Its marine motor is is used by prize winners. Its aeroplane motors for Curtiss planes won high British praise during the war.

The deck is being cleared of some models, and concentration will be on the Spillman 3½x5 four-cylinder and the 3¼x5 six-cylinder.

T. J. Wilson is chairman of the board, other members being B. W. Burtsell, president and general manager; Thomas C. Perkins, treasurer; M. J. Tovell, secretary and assistant treasurer; F. R. Switzer, well known Boston banker; and Guy White. The executive and finance committee of the board are business men and capitalists who command large resources and connection with many substantial business successes.

* * *

Harry Stutz Plans H. C. S. Car.

Harry C. Stutz, founder and for years president of the Stutz Motor Car Co., of Indianapolis, has announced the formation of a new car manufacturing company, the H. C. S. Motor Car Co., with initial capitalization of $1,000,000 and plans for immediate erection of a modern factory in Indianapolis for the production of the H. C. S. car. He is president and managing director and majority stockholder. Associated with him are Samuel T. Murdock, capitalist and traction magnate, as vice-president; Henry F. Campbell, capitalist and former partner of Harry Stutz in the Stutz Motor Co., as treasurer; and A. Gordon Murdock, secretary.

Campbell was associated with Harry Stutz when he designed and developed the first Stutz car, built from blue prints in less than two months. Its performance at the first 500-mile Indianapolis sweepstakes race is a romance of automobile racing.

The H. C. S. car will be a moderately sized car, built around the idea of fuel economy. The price will be under $3,000. First models of the H. C. S. will be shown at the national shows in New York and Chicago, and the plant will be ready by early spring, 1920.

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SCHWARZ WHEELS

WITH INTERLOCKED SPOKES

The safe wheel for every type of motor vehicle

SCHWARZ WHEELS with their interlocked spokes are practically indestructible—they are guaranteed for the life of the car or truck. And being made of wood, they absorb road shocks, thereby lengthening the life of the vehicle.

Schwarz Wheels have been standard equipment for many years on the finest passenger cars and trucks.

We carry a complete stock of Schwarz Wheels and Spiders. Also a full line of automotive equipment, accessories and hardware.

SCOVEL IRON STORE CO.

SAN FRANCISCO SISCO LOS ANGELES

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Studebaker Helps Men to Own Homes.

A. R. Erskine, president of the Studebaker Corp., has announced that as a necessary complement to its new $15,000,000 automobile plant at South Bend, Ind., the corporation has organized a subsidiary company known as the Citizens' Homes Co., with initial capital of $1,000,000, and that through this agency from 500 to 1,000 modern homes for Studebaker employes will be erected during the coming year. Fred L. Dennis, formerly treasurer of the Indiana & Michigan Electric Co., has been secured as president of the Citizens' Homes Co. The new Studebaker plant at South Bend will ultimately require 12,000 additional employes, entailing an estimated addition to the city population of not less than 40,000 persons, so that the 1,000 homes to be built this year by the Studebaker Corp. will serve only a fraction of the need.

* * *

Kellogg Mfg. Co. Expands.

The Kellogg Mfg. Co., of Rochester, N. Y., has started a whole new plant in order to more than double its present production to meet demand. The company manufactures tire pump installations and part of its heavy volume of sales are ascribed to the growing use of pneumatic tires on motor trucks.

* * *

Mercer and Locomobile Linked.

The Locomobile Co. of America, Bridgeport, Conn., and the Mercer Motors Co., of Trenton, N. J., are to be brought close together through the re-organization of the first named company into a new concern, the Locomobile Co., and the purchase by the Mercer of a large share of Locomobile stock. The new Locomobile Co. is capitalized at 300,000 common stock shares, no par value, and $5,000,000 7 per cent cumulative preferred. The Mercer will buy 100,000 shares of Locomobile common stock at $35 a share, making it the largest stockholder in the Bridgeport company.

* * *

Norma Moves Offices.

General offices of the Norma Co. of America in New York City have been moved from 1790 Broadway to the company's new factory in Anable Ave., Long Island City. The factory was formerly located in the Bronx district.

* * *

Skelton Four in Production.

The Skelton Motor Corp., of St. Louis, Mo., began production of the new Skelton four-cylinder car during December. It is priced at $1,245. The frame of the car is of standard pressed carbon steel, reinforced over the rear axle. The front and rear springs are elliptic and of carbon double heated steel.

The four-cylinder engine is long stroke, has L-head valves and removable head. The Westinghouse starting and lighting system, Carter carburetor, Borg & Beck clutch, Muncie transmission, and Hotchkiss drive are other points of excellence.

* * *

Bender Joins C. A. S.

John L. Bender has resigned as sales manager of the Anderson Forge & Machine Co., of Detroit, to join the C. A. S. Engineering Co., of the same city. The latter company will represent the Pollak Steel Co., which operates plants at Cincinnati and Marion, O., and Chicago, Ill.

NATIONAL WIRE WHEELS ARE BECOMING POPULAR IN SOUTH AMERICAN COUNTRIES.

Last month there was a parade in Buenos Aires, Argentina, in which 134 Ford cars participated. As they swung past some of the architectural grandeur of this newest metropolis the photographer caught the modern spirit of the owners whose preference for National Wire Wheels is evidenced. Jose A. Aedo, representative of the National Wire Wheel Works in the Argentine, is doing a wonderful business at this time, and the path-finding by National Wire Wheels appears to be a forerunner for other desirable accessories.

Powrlok to Manufacture in Europe.

The Powrlok Co., Cleveland, O., manufacturers of the Powrlok Differential, have just completed arrangements for the manufacture and sale of their product throughout England and the Continent. Since the end of the war, a large number of European automobile and truck manufacturers have attempted to secure Powrlok equipment, but so far the requirements of American manufacturers have absorbed the factory output. E. A. Vandervell will have charge of manufacturing Powrloks in England, and associated with him will be R. A. Rothermel of London. The demand for Powrlok from manufacturers of passenger cars is particularly strong on the Continent, no fewer than fourteen of them already being interested to the point of using Powrlok as standard equipment.

* * *

More Eisemann Contracts.

The Eisemann Magneto Corporation announces a contract for high-tension magneto equipment for the "Argonne 4," a new special roadster built by the Jersey City Machine Co., under the supervision of Charles A. Singer. The company also announces the renewal of its contracts for magnetos with the Winther Motor Truck Co., Dart Truck & Tractor Corporation and Toro Motor Co., and has just received a contract for magnetos for the "Dixie Flyer," the passenger car built by the Kentucky Wagon Co., Louisville, which company has used Eisemann ignition as standard equipment on its trucks for some time past.

* * *

G. D. Smith Joins Winther.

George Drake Smith has been appointed assistant to Martin P. Winther, president of the Winther Motor Truck Co., of Kenosha, Wis. He was formerly electric vehicle department manager for the Edison Storage Battery Co., of Orange, N. J.

* * *

Hoosier Capital Another Detroit.

Indianapolis, Ind., has nine automobile makers. During 1920 they will build 73,000 cars, according to present schedules. Their expected output and its value run as follows:

Ford (branch)	30,000	$21,000,000
Cole	12,000	40,440,000
Marmon	7,500	41,625,000
Monroe	7,500	9,732,500
Lafayette	2,000	7,000,000
Stutz	4,000	14,000,000
National	5,000	17,750,000
Premier	2,000	8,000,000

* * *

Hinkley Plant Runs Under Own Power.

One of the few Detroit manufacturers operating full time and at full speed despite electrical power restrictions is the Hinkley Motors Corp., which is securing its entire power and light supply from a battery of Hinkley Heavy Duty Automotive Engines. Despite the fact that the firm's equipment includes a considerable amount of heavy machinery, no difficulty is experienced, the entire battery of engines requiring the attention of one man.

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GILL

The Perfect One Piece Piston Ring

"The car is going fine since you put these Gill Rings on the motor."

Isn't that the kind of commendation that brings joy to the heart of the garage man? It brings money to his pocket too, for a satisfied customer is a big asset to business.

It is the kind of talk the motorist gives when a set of Gill Piston Rings have been installed on his motor and naturally there's a reason for it. Look at the double step interlocking joint of the Gill Piston Ring and you will see the reason at once. An absolutely tight joint, with no loss of compression whether the cylinder is new or worn. The Gill Ring allows an expansion of from 1/8" to 3/16" before any loss of compression occurs.

Send for the new Gill Piston Ring Size Directory, complete, convenient and full of just the information you need. It is free to the trade.

Dealers—Ask your jobbers about them
Jobbers—Write to us for information

The Gill Manufacturing Company
351 West 59th Street, Chicago, Illinois

Sole Foreign Agents
AUTOMOTIVE PRODUCTS CORPORATION
Woolworth Building, New York, N. Y.

Pacific Coast Branches:
Gill Piston Ring Co.
1313 S. Figueroa St.,
Los Angeles, Cal.

Gill Piston Ring Co.
803 Van Ness Ave.,
San Francisco, Cal.

Gill Piston Ring Co.
723 E. Pike St., Seattle, Wash.

See the Gill Piston Ring Exhibit at the New York and Chicago Automobile Shows.

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SCORED CYLINDERS

Repaired by **"Lawrence Patent Process"** with Silver-Nickel Alloy, fused electrically. No warping or enlarging of bore. Same piston and rings fit. All work absolutely guaranteed. Reshipped 24 hours after received. Endorsed by all manufacturers. Also burnt and oil scores repaired. Plants in all principal cities.

Established 1862

L. LAWRENOE & OO.

SAN FRANCISCO, 116 Hyde St. — LOS ANGELES, 1030 South Grand Ave.

All infringers will be prosecuted to full extent of the law.

Personnel of Willys Corp. Complete.

The executive personnel which will direct the financial and industrial activities of the Willys Corporation for the ensuing year is as follows: John N. Willys, president; J. R. Harbeck, vice-president in charge of New York executive office; C. O. Miniger, vice-president in charge of Electric Auto-Lite Division operations; J. Allan Smith, vice-president in charge of New Process Gear unit operations; Jay V. Hall, vice-president in charge of motor car production; E. P. Decker, treasurer; and C. B. Mertz, secretary. The board of directors is composed of John N. Willys, Edward F. Swift, F. S. Wheeler, J. R. Harbeck, Charles Stolberg, C. O. Miniger, J. Allan Smith, Jay V. Hall, C. B. Mertz and J. E. Kepperly.

* * *

$5,000,000 Firestone Plant in Canada.

H. S. Firestone, president of the Firestone Tire & Rubber Co., has announced the formation of the Firestone Tire & Rubber Co. of Canada, Ltd., with a capitalization of $5,000,000. According to the announcement a factory which will be erected at Hamilton, Ont., will begin operations in five months, with a daily capacity of 3,500 tires of all types. Approximately 2,000 persons will be employed.

* * *

Lloyd Heads Cassidy Co.

L. M. Lloyd succeeds Edward A. Cassidy, who died recently, as president of the Edward A. Cassidy, Inc., of New York City. He has been its advertising manager several years. The company handles the output of several companies, among the Gredag, Conaphore lenses, G. P. muffler cutout, G. Piel horns, Kimball jacks, Cassco tire pumps and Rajah spark plugs.

L. W. HOLT,
President of the Automatic Light Co.,
Ludington, Mich.

Holt Heads Automatic Light.

L. W. Holt, former district manager of the old Abbott Co. in Detroit, is now president of the Automatic Light Co., Ludington, Mich., which manufactures electric power and lighting plants for farms and is now producing four plants a day.

* * *

Wolverine Tube Co. Expands.

The Wolverine Tube Co., formerly located at 33rd and McGraw Aves., Detroit, has moved to its new home at 611-625 Central Ave., where it has greater facilities for producing its line of small sizes of seamless brass and copper tubing. The present plant consists of 2½ acres of land and 30,000 ft. of floor space. This company was purchased last April by a group of men who have long been connected with this industry, and the expansion of the business has been very remarkable considering the short time it has been under their control.

* * *

Peerless Raises C. S. Bailey.

C. S. Bailey has been made advertising manager of the Peerless Motor Car Corp., of Cleveland, O. He formerly acted as assistant to George Twitmyer, who left the Peerless to become advertising director of the revived Stevens-Duryea Motor Co., of Chicopee Falls, Mass.

* * *

Heads Portage Advertising.

Harwood Bacon has been made sales manager of the McGraw Tire & Rubber Co., of Cleveland, O. L. E. Larson is now advertising manager for the Portage Rubber Co., of Barberton, O.

* * *

Imperial Brass Invites Visitors.

Interesting and practical demonstrations of oxy-acetylene welding processes will be carried on every day at the plant of the Imperial Brass Mfg. Co., of Chicago, during the time of the twentieth annual automobile show in that city. All convention visitors are cordially invited by the company.

* * *

Seymour Heads A. O. Smith.

W. E. Seymour, former general manager of the Fairbanks-Morse Co., of Beloit, Wis., has been appointed vice-president and general manager of the A. O. Smith Co., makers of pressed steel automobile frames. Under Seymour Fairbanks-Morse increased their sales from $3,500,000 to $15,000,000 in five years.

* * *

McQuay-Norris in New Plant.

The McQuay-Norris Mfg. Co., of St. Louis, Mo., makers of piston rings, has opened its new plant. It covers three acres on a six and one-half acre site.

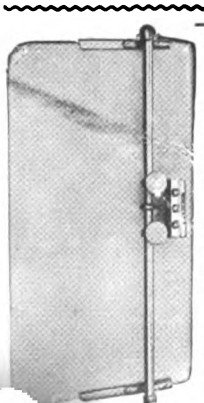
* * *

Master Primer a Splitdorf Product.

The Splitdorf Electrical Co., Newark, N. J., has taken over manufacture and sales of the Master electrical primer. The Master device is standard on several cars and operates through a control on the dash. Pulling this button sends fuel flowing over an electrically heated coil. Volatilized the fuel is sprayed into the intake manifold.

ADDITIONAL CLASSIFIED ADVERTISEMENTS

HOTELS



SIDETRACK the WIND
Attach PACIFIC
WIND DEFLECTORS
Ride in solid comfort. Keep that draft off. You not only owe this added comfort to yourself, but to your passengers.
No Perforations in Glass
Rust-Proof Brackets
Rattle-Proof
Not a novelty, but a proven, practical necessity. Accept no substitutes, demand Pacifics.
(Name on each pair.)
Price $20.00.
Pacific Windshield Co.
814 South Olive St.
Los Angeles, Cal.
Phone M. 8122.

WIND DEFLECTORS

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Made for Maxwell Cars

KINGSTON CARBURETORS

THE KINGSTON Company, oldest and largest builder of carburetors in America, has perfected a special carburetor for Maxwell cars. The Maxwell Special is simple, staunch, flexible and easily controlled. It will get the last atom of power from your gas. It will operate smoothly, easily, dependably. If you have never known the complete satisfaction in having a carburetor that meets every demand, all the time, in good conditions and in bad, investigate this special Maxwell Kingston. ¶ It has been built for the Maxwell Owner. It will solve, once and for all, his carburetor problems. It is backed by the strongest guarantee that we know how to make.

TO MAXWELL OWNERS—The price of this super carburetor with hot-air stove complete is $11.00. If your dealer can't supply you send order to us direct.

TO DEALERS—Write us at once for special proposition.

Western Representative: **FRED L. HOUSTON, 1235 Van Ness Avenue, San Francisco.**

BYRNE, KINGSTON & CO., Kokomo, Indiana, U.S.A.

BRANCHES: New York City, 1733 Broadway; Chicago, 1430 Michigan Avenue; Detroit, 870 Woodward Avenue; San Francisco, 1235 Van Ness Avenue; Boston, 15 Jersey Street.

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Large Spring Plant in Detroit.

Detroit is to have what is expected to be the finest and largest automobile spring plant in the world. A new company, the American Autoparts Co., has been formed there, with a capital of $5,000,000, and a thirty-acre plant site has been bought. The company's officers are William E. Perrine, president; T. T. Grimmelsman, vice-president and general manager; W. P. Culver, vice-president and sales manager; and J. W. Stannard, secretary-treasurer. The company will be in operation about April 1, 1920, it is believed.

* * *

Gray & Davis Profits.

Gray & Davis, Inc., of Boston, Mass., netted $352,341 profit, before paying federal taxes, during a nine months' period, ended Sept. 30. Net sales were $2,932,276 and operating profits, $599,464.

* * *

White Stripe Output Increased 50%.

The demand for White Stripe Lining for Fords has grown to such large proportions that the Advance Automobile Accessories Corp., Chicago, makers of White Stripe, have increased the factory output over fifty per cent. The company has just completed the making and installing of seven new 10-reel multiple looms, and now has a capacity for weaving over 6,000 feet more daily. The treatment plant has also been enlarged, and five more treating tanks will be ready by January 1. White Stripe is a plain transmission lining for Fords. It is specially woven and treated by the Advance Automobile Accessories Corp. for Ford service only.

* * *

Earnings of the Reo Motor Car Co., Detroit, during the year are estimated at $2,100,000 by Detroit brokers, about 30 per cent on issued stock.

* * *

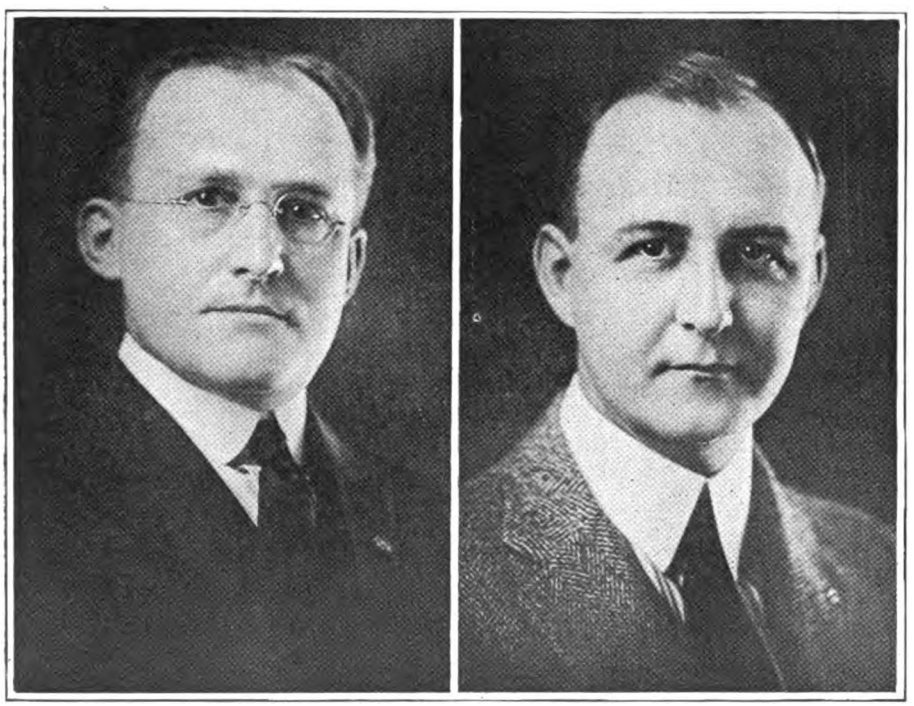
Clark Rises With Eisemann.

E. Stanley Clark has been made advertising manager for the Eisemann Magneto Corp., of Brooklyn, N. Y. He previously handled the company's publicity and printing.

* * *

Hardman Tire Output Increased.

The Hardman Rubber Corp., of New Brunswick, N. J., has made an increase in its output of 1,500 tubes and 500 tires a day, this being possible through the installation of new equipment and machinery. The concern is now a subsidiary company of the Stanwood Rubber Co., of Newark, N. J.



THIS PREMIER PAIR ARE RESPONSIBLE FOR EFFICIENCY OF INDIANAPOLIS COMPANY'S PRODUCT.

The war proved that a successful production man must also be an engineer; and that the right kind of an engineer must also know, if need be, how to go out into the factory and build his own designs. Probably the most dramatic combination of engineering and production in the country at the present time is found in the Premier Motor Corporation organization at Indianapolis in the persons of Frederick P. Nehrbas, general manager of the company (left), and Charles S. Crawford, assistant general manager and director of engineering (right). Both of these men have built motor cars; both of them have designed motor cars. Each knows the natural difficulties of the other's job from first-hand experience.

When it comes to fast, clean play, this is how the combination works. When America "went in," the war department put up to Nehrbas and Crawford the manufacture of 2500 three-ton trucks to be completed in one year. They came under the wire eighteen days ahead of their schedule. Meanwhile they had re-tooled and re-equipped practically the whole Premier factory; schooled a passenger car organization in a strange product; built all the big axles for these four-wheel-drive trucks, besides spare parts enough to make another 500 trucks, making their whole effort equal to the building of 3,000 three-ton trucks from scratch in eighteen days less than one year.

The practicability of the Nehrbas-Crawford combination is shown in the new Premier series which will soon be shown the American public. This car, it is claimed, sets a new standard of motor car completeness, carrying, as it does, every known and approved luxury and convenience feature, from a Pyrene fire extinguisher to two spare cord tires as regular equipment, inflated, racked, and ready to go.

Eisemann Resumes Production.

The Eisemann Magneto Co., of Brooklyn, N. Y., has resumed production of Eisemann magnetos following the settlement of labor troubles at its plant. As part of the swing back to the former production stride and beyond, the company is now building its own sales and service building in Chicago.

* * *

Norwalk Tire Capital Increased.

The Norwalk Tire & Rubber Co., of Norwalk, Conn., has authorized the increase of its capital stock to $3,000,000. This represents an increase of $809,000. The additional capital will be laid out in plant additions. One will be a new power house and another a six-story factory building, of dimensions 80x128.

* * *

A. O. Smith Adds to Plant.

The production capacity of the A. O. Smith Co., of Milwaukee, Wis., is to be practically doubled when additions to the factory are completed. The new buildings represent investment of more than $4,000,000. The company is one of the largest makers of automotive parts in the country.

* * *

Ford Co. Buying Starters.

It is reported from Toledo, O., that the Electric Auto-Lite Corp. has a large order for starting and lighting systems for the Ford Motor Co. Beginning in January, 4000 starting and lighting systems a day will be turned out to fill orders.

* * *

Gottfredson Leaves Saxon.

Benjamin Gottfredson has resigned as president of the Saxon Motor Co., Detroit, and will give all his time to the American Auto Trimming Co., of which he is also president. Two years ago he took control of the company when it was in heavy financial difficulties. He brought it back to safety and his retirement was strongly opposed by Saxon directors and creditors.

* * *

Large Production for Cleveland.

The Cleveland Automobile Co., of Cleveland, O., will manufacture 18,000 cars during the January-to-June period of 1920. This is equal to the maximum scheduled for The Chandler Motor Car Co., the parent company. Daily production of Cleveland Sixes reached 60 cars by mid-December, meaning total 1919 shipments of 3,000 cars.

* * *

National Plug Changed to Fyrac.

The Fyrac Mfg. Co., of Rockford, Ill., is the new name of the former National Spark Plug Co. The change becomes effective Jan. 1, 1920. There will be no change in the personnel of the company.

* * *

H. C. S. in Output Soon.

Production of the new H. C. S. car, designed by Harry Stutz, will begin late in January or early February. The new plant of the H. C. S. Motor Car Co., of Indianapolis, Ind., will be located at 14th St. and Capital Ave. in that city.

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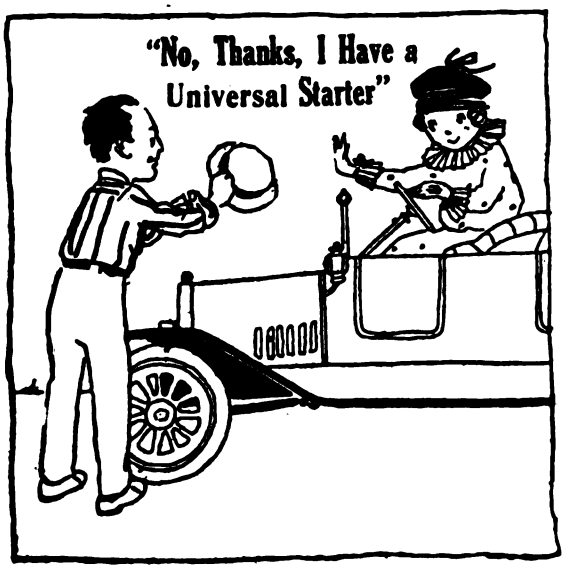
"Do You Still Crank Your Ford?"

—Do you still wade 'round in the mud on rainy days to get your car started?

—If you stop for a moment and kill your engine, do you still have to get out and wind her up?

—Do you think it necessary to be a slave to the crank?

"Whew, Wish I Had One!"



Thousands of Others Have Quit—Why Not You?

Thousands of other Ford owners have ended their cranking careers; they now step into their cars, **USE THE UNIVERSAL STARTER** and are away in less time than it now takes you to pull the priming wire on your Ford, and they don't run the risk of a broken arm or a sprained wrist.

Can Be Installed in 30 Minutes

Installation harmless to your car. Made of drop forged steel, and not a penny of upkeep in sight. A child can operate it in perfect safety. Back-firing can neither harm driver nor starter, protected by our automatic release.

"NEW UNIVERSAL STARTER"

Guaranteed for the Life of Your Car

$29.50

Including Foot Primer and Hot Shot Battery

Sold on a Positive Money-Back Guarantee

Guaranteed to work perfectly as long as your Ford will run. This guarantees the whole starter or any part of it. It's sold on a money-back trial. If it is not perfectly satisfactory we'll take it off your car and refund the purchase price. We know that's a strong guarantee, but also know that the Universal is perfect. Every part of it drop forged steel, and experience has proved that it will withstand the most severe abuse. It's absolutely fool-proof. Don't confuse the "Universal Starter" with others you have seen for sale. This is its first appearance in your territory. You must see it demonstrated to appreciate it. At the price this starter is offered you can within a short while save the cost of Universal Starter in gasoline and oil wasted in letting your engine run. Guaranteed to start any FORD that will crank. Demonstration stores are now located in most of the important cities in the United States and the territory in most of the States has already been sold. Counties in your territory may be closed any day. ACT NOW.

Live Agents Wanted!

Be Our Agent—Make Good Money Selling Our Universal Starter

The Universal sells itself. If you want a proposition that will bring unusually big returns for a nominal investment, write or wire, and preferably see us NOW for agency in your city, county or section. Some choice territory still open in Canada, U. S. and Mexico.

Universal Starter Company

Toronto :: Canada

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New Things in the Accessories Field

TRI-CO UNIVERSAL RAIN RUBBER.

With the Pacific Coast's season of rain and fog close at hand it is important to consider means of keeping the driver's view through the windshield clear, especially in the street traffic of large cities and towns. The Tri-Co Universal Rain Rubber is a very convenient and efficiently

TRI-CO. UNIVERSAL RAIN RUBBER.

acting device. The person at the wheel need not divert his attention to clearing the windshield of rain or fog; the Rain Rubber slides with a touch of the passenger's hand all the way across the windshield, cleaning it from top to bottom.

The Rain Rubber is attached by opening the windshield and slipping it on the upper glass. Multiple gum rubber makes the cleaner flexible with two cleaning surfaces on each arm. The manufacturers are the Tri-Continental Corp., of Buffalo, N. Y.

MAKES CAR GREASING PLEASING AND EASING.

Greasing the car has always been a nightmare to the car owner. Smeary, inconvenient for him to do it himself; expensive when done by someone else. With the Copeman Lubricating System, manufactured by the Copeman Laboratories, Inc., of Flint, Mich., the car may be greased in a few minutes, without muss or soiled clothes. Every bit of grease goes to the bearing, the Copeman device being a combination of a grease gun and a grease cup.

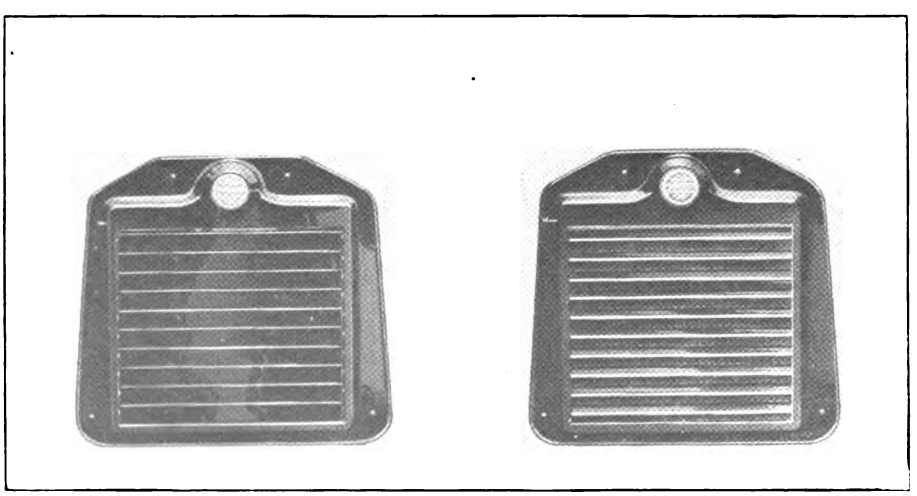
The Copeman system consists of Copeman Lubri-Cups and Copeman Lubri-Caps. The Lubri-Cups give a pressure of 745 pounds to the square inch, enough to put grease into any bearing and assuring the most positive and efficient lubrication. With the clean Lubri-Caps even a woman can grease the car. There is claimed to be no waste, no smearing or squeezing back of grease. The Copeman Lubricating System is handled on the Coast by the U. S. Manufacturers Sales Co., 612-18 Pittock Block, Portland, Ore.

WINTERFRONT SHUTTERS KEEP RADIATOR WARM.

Adjustment of the carburetor is often not enough to warm up an engine started on cold mornings. An inventor, Christian Nielsen, of Chicago, long ago found that hard-starting conditions could be considerably relieved by the use of leather radiator covers. He finally developed his invention into Winterfront, an automatically operated shutter device for radiators.

The Winterfront has a drawn-steel shell made to fit exactly over the core of the radiator and attached by four very slender bolts passing through it. A braided cord edging forms a protecting cushion between the shell and the core. The shutters are of smooth steel, ribbed and strong. The shutter axles work noiselessly on special bearings. The shutters are operated in unison by an ingenious set of rods and levers connected with the thermostat in the upper part of the shell or frame.

The thermostat is very simple and its thermo-wafer cells are filled with a liquid gas proportioned to make the cells expand or contract at desired temperatures. When the cells are closed the shutters are closed tight; they remain so till the radiator warms to 130 degrees F., then the heat expands the cells, which turn a double bell crank and gradually open the shutters. The operation is entirely automatic. The makers of the Winterfront are the Pines Mfg. Co., 56 E. Randolph St., Chicago, Ill.



WINTERFRONT SHUTTERS AUTOMATICALLY KEEP RADIATOR WARM IN WINTER.

PEERLESS PISTON RING.

Piston rings are nothing more, and nothing less, than metal packing for the piston. The motor engineer looks upon them as double-seated check valves intended to prevent leakage around the ring and between the piston and the cylinder wall.

PEERLESS PISTON RING.

Pistons are of necessity smaller than the cylinder. To take up the space between the piston and the cylinder wall a metal ring is applied in a groove provided in the piston. This metal ring, called the piston ring, is in theory supposed to fit tightly against the cylinder wall and also tightly against the seat of the piston groove. If it does not fit both tightly it allows much power, gasoline and oil to go to waste and causes many other troubles.

The difficulty in the way of making piston rings seal both the wall of the cylinder and the groove of the piston is due to the fact that the ring cannot be a closed ring or hoop and have wall pressure. It must be open so that it can expand and contract and give equal pressure around the cylinder wall as the cylinder conditions may require. The problem of constructing the perfect piston ring is therefore the seemingly impossible one of making a ring that will give equal pressure around the cylinder wall with openings that are closed.

The Peerless Piston Ring has proved itself a practical solution of this seemingly impossible problem. Its makers claim that positive results have been obtained by the use of a one-piece piston ring with plenty of tension; this ring should be made of close-grained, individually cast grey iron; in type it should be eccentric, that is, thick on the side opposite the opening or lock, and slightly tapering in thickness to the tips. This insures a good, lively ring which readily wears in or seats closely to the cylinder walls. Then if added to this ideal construction and material it is possible to get a locked joint and the result is ideal.

The Peerless is made to meet these requirements. The ring, being of good tension and locked, prevents the oil passing up to the combustion chambers; this in turn prevents formation of carbon (cooked oil), which when formed passes down via the same route to the crank case and mixes with the oil. The Barnett Auto Body Co., 430 Golden Gate Ave., San Francisco, represents the Peerless Piston Rings on the Coast.

MOTOR WEST reaches a larger percentage of dealers than any other automobile publication circulated on the PACIFIC COAST.

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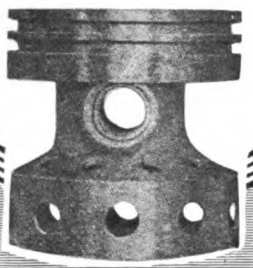
ZEPHYR PISTONS

(PAT.)



DURABILITY POWER SPEED ECONOMY

ZEPHYR pistons hold many records of world interest since 1910 when they established world's record of 100 miles per hour for three consecutive hours.

ZEPHYR pistons were used in the Atlantic flight by Alcock-Brown, also in the R34 in its 6,000 mile flight from England to America and back.

The World's Best Piston Since 1910

The Wridgway Company Inc.

HALLSTEAD, PENNA.

Send for Booklet

DURABILITY POWER SPEED ECONOMY

U.S.PATENT 975301

ENDS YOUR TIRE TROUBLES FOREVER

It brings new happiness and releases you from the horrors of expected tire trouble. Think of the joy of riding along without the eternal fear of a puncture or blow-out.—Think of getting 10,000 to 20,000 miles out of every tire—no vulcanizing, no patching, no repairing of any kind—just real good old pleasure riding. Do away with your inner-tube and the many troubles caused by its use forever by installing in your tires this wonderful and economical

NATIONAL RUBBER TIREFILLER

This marvelous substitute for air is being used by thousands and thousands of satisfied car owners all over the United States and many foreign countries. We have been selling it for more than seven years—We sold over 35,000 sets last year. It is a wonderful big success with years of actual service record back of it.

This Tire filler is made of the best grade of rubber cut in small particles, treated, molded and vulcanized by our special steam process, in sizes to fit all standard makes of tires. It is laid in your tires and not melted and poured in—It gives the same pressure as the well inflated air-filled tire and has all its good riding qualities with none of its faults—Can be transferred from one tire to another—Will not freeze, melt or harden—is not affected by climate conditions—fully guaranteed against deterioration in any form.

Don't let prejudice stand in your way. Good business judgment demands that you at least make a careful investigation. Let us send you full information, sample and prices. DEALERS—We have a fine proposition for you.

National Rubber Filler Co.

224 College St. MIDLOTHIAN, TEXAS

PACIFIC COAST OFFICE

National Rubber Tire Filler Co.

2315 California St. San Francisco, Cal.

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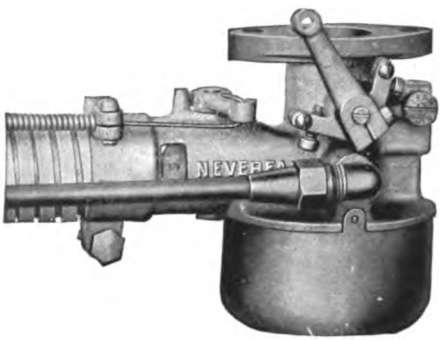
NEVERFAIL CARBURETOR HAS NO MOVABLE PARTS.

The Neverfail Carburetor for Ford cars works on a new scientific principle, the entire vaporization taking place in the high vacuum on all speeds. This insures ample power, quick and smooth acceleration and a very low fuel consumption.

There are no springs, air valves or venturi tube to get out of order or require



NEVERFAIL CARBURETOR FOR FORDS.

delicate adjusting in the Neverfail Carburetor, which is said to be remarkably simple.

The fuel bowl may be easily detached, permitting in a few seconds the removal of any dirt or water without removing the carburetor from the car.

Sales distribution of the Neverfail Carburetor are handled by the F. M. Eldredge Co., of Detroit, Mich., and on the Coast by M. J. Siebert, of 701 E. Third St., Los Angeles, Cal.

The Neverfail is one of the latest carburetors to appear and is made in the foundries and shops of the Neptune Meter Co. by the Neverfail Carburetor Co., of Long Island City, N. Y. The officers of the Neverfail Carburetor Co. are J. Herbert Ballantine, president; John H. Ballantine, vice-president and general manager; J. Bayard Kirkpatrick, treasurer; B. Volkmar, vice-president and engineer; and S. Asch, secretary.

WASCO GARAGE HEATER SELF-REGULATES.

Everywhere, even on the Pacific Coast, we have our damp, chilly garages, uncomfortable to work in during the mornings and nights. Therefore it should interest thousands of Coast car owners to know of a ready-to-set-up garage heating system with an automatic control that insures constant uniform heat in the coldest weather.

This system is approved by underwriters and fire commissioners, due to the fact that the heater never becomes red hot. Its fire is jacketed within walls of iron and water. A car may be driven to within an inch of the radiator of system without danger of damage.

The automatic control is simple and dependable. In the accompanying illustration the expansion or regular tank is on the left. The water in the bottom of this tank, which receives heat from the heater, expands and contracts as its temperature rises or falls.

Cooling, the water contracts, its level lowers, the air-tight float above it descends, the float pulls down the regulator rod No. 1 at the connection above the tank; this raises rod No. 2, raises the griddle damper in the top of the heater from the damper seat, and opens the stove-pipe draft, compelling the fire to burn and produce more heat in the water.

As the water heats up, it expands under the float in the tank, forcing down the regulator rod No. 2 and the griddle damper in the top of the heater, shuts off the stove-pipe draft and checks the fire.

This ideal heating system is the Wasco Ready-To-Set-Up Garage Heating System, manufactured by the W. A. Schleit Mfg. Co., Inc., of Syracuse, N. Y. About five minutes a day is all the attention needed to get a constant heat and the heater burns only a few cents' worth of coal a day.

NEW MOTOR-DRIVEN KLAXON HORN FOR FORDS.

Responding to a demand that has grown to large proportions among the owners of Ford cars for a motor-driven horn, the Klaxon Co. now announces its new Klaxon "5" Ford Type. Shipments already have been made to dealers and jobbers in the various parts of the country.

The new horn is equipped with a bracket that fits readily onto the Ford engine, under the hood. Installation on Ford cars, which are now "coming through" equipped with self-starters, is a simple matter, and can be done by any Ford owner himself.

The need for a motor-driven signal for Fords has been sensed for some time, but the Klaxon Co. has been considerably oversold during the past year on its standard lines; and it has been only recently with an enlarged capacity that it has been possible to turn out the new Klaxon "5" in quantity production.

ADVANCE HOUSE ORGAN MAKES HIT.

Pursuant to its policy of never doing anything by halves, the Advance Automobile Accessories Corp., Chicago, has given the trade in general a house organ that has made a decided hit. "Let's Go!" is its name. It is attractively printed and very neatly gotten up. Its mission is to create good will, a new idea or a smile now and then. Its circulation already is over 50,000, and the company offers to place on the mailing list the names of any persons connected with the accessory industry.

AM-PE-CO DIRECT READING CYLINDER GAUGE.

The purpose of the Am-Pe-Co Direct Reading Cylinder Gauge is to eliminate the uncertainties and mistakes possible with the delicate and expensive internal micrometers used to determine cylinder diameter for the fitting of pistons and

AM-PE-CO CYLINDER GAUGE.

rings after re-boring, re-grinding and other cylinder work.

To many garage mechanics micrometer readings are confusing. The fact that the Am-Pe-Co device also makes it possible to read the correct over-size direct from the blade is another appealing feature.

The Am-Pe-Co Gauge is made of hardened and polished steel. Each blade is ground true to its designated length by revolving on centers, so that the whole arc of the blade may be used in measuring.

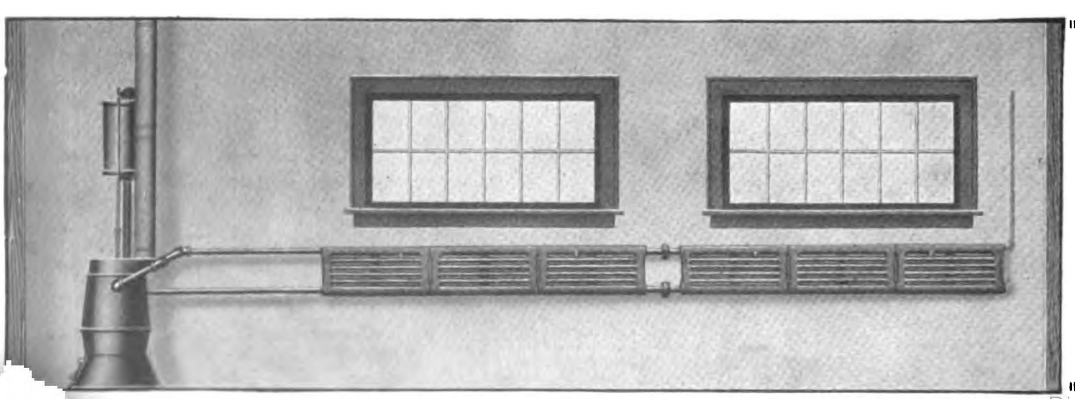
The price is $2.50 each and the gauge is made in sets for the Ford, Dodge, Maxwell, Chevrolet and can be made for any other size engine. The makers are the American Machine Products Co., of Marshalltown, Ia., manufacturers also of Am-Pe-Co Pistons.

DOTY RADIATOR SHUTTER.

A recent invention that has all the earmarks of a big success is being introduced by the Auto Radiator Shutter Co., Dayton, Ohio. The product is a new shutter for all makes of cars. It is made of metal-bound fiber and is so constructed that it can be applied to any car in five minutes.

The Ford model is now being turned out in big production units. The company will soon have several other models ready for the market, including Dodge, Chevrolet, Oakland, 1920 Maxwell and new Overland Four.

A big feature in favor of the Doty Shutter is its very simple construction and the fact that it absolutely cannot rattle. All models of the Doty Shutter will retail at $3, and present an attractive proposition to jobbers and dealers.



THE WASCO READY-TO-SET-UP GARAGE HEATING SYSTEM works while its owner sleeps. If the garage gets too cold, the draft is automatically put in operation; if too cold, the heat is immediately turned on, and in the morning the car is always ready for an immediate start without a "warming-up."

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HI-TEST
LUBRICANT

WILL SATISFY YOU AS NO OTHER LUBRICANT CAN

It will pay you to investigate the merits of this product.

Noisy gears, leaking, gummy transmissions and differentials are eliminated through its use.

It does not stiffen or cake in cold weather.

Its vicocity assures perfect lubrication of parts and engaging surfaces.

Manufactured by
United Products & Sales Corp.
512 Second St. San Francisco, Cal.

Service Stations
819 Ellis St. San Francisco, Cal.
91 Twelfth St. Oakland, Cal.

PORTAGE DAISY TREAD TIRES

Extra rubber and extra fabric, built layer by layer into a tremendous strain-resisting unit—

this means more mileage.

Better facilities, better workmanship, closer inspection—this means **Portage Quality** — more mileage.

Portage Tires carry profit advantages for the dealer in addition to the normal profits obtained from ordinary tires.

Write for the Portage Agency proposition.

Factory Branches

745 Mission Street
San Francisco, Cal.

410 West Pico Street
Los Angeles, Cal.

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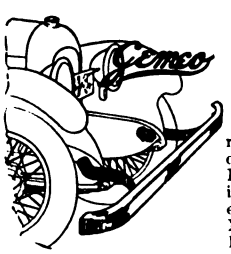
Gemco
MILWAUKEE
TRADE MARK

Collision-Proof Bumpers

Why They Are Easy to Sell

Any motorist can see at a glance that the new Gemco Spring Bumpers are the most sensible bumpers he can put on his car. The curved springs of these collision-proof bumpers take up all the shock, protecting both car and bumper from injury. Perfected Gemco attachments make rattling impossible.

Here are three Gemco Spring Bumpers that have been swelling the sales of thousands of enterpising dealers. Have you been overlooking this opportunity for profit?

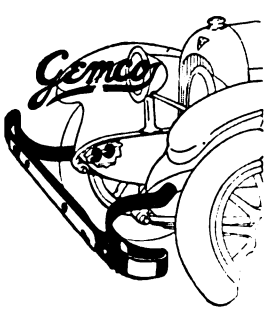


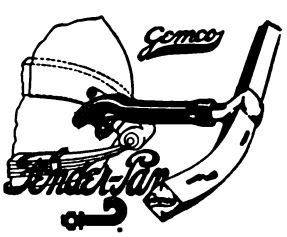
Gemco Spring Channel Bumper—

For standard cars, front and rear. Brackets are high-grade, oil tempered, flat steel springs. Bumper bar, 2-inch channel, finished in hard rubber, black enamel or nickel. Retail prices: Nickel Finish, $10.54; Black Finish, $9.48.

Gemco Spring Bumper

Fits standard cars, front and rear. Made of two heavy, high-carbon, oil-tempered steel springs, with looped ends. Springs overlap for adjustment and strength. Reinforced and secured by front plate of spring steel. Retail prices: Nickel Finish, $14.00; Black Finish, $12.50.





Gemco Fender Pan Bumper

For those who prefer enclosed springs. Easily attaches to front or rear of standard cars. Does not interfere with splash pans or fenders. Diamond or channel bar. Retail prices from $9.00 to $12.50.

If you are not stocked with these popular bumpers, ask your jobber or write direct to us.

Gemco Mfg. Co.
725 S. Pierce Street
Milwaukee, Wis.

Spokane, Wash.—The Washington Magneto Co., S218-220 Madison St., has been bought and re-organized by three recent overseas men, Clare S. King, Lyle M. King and Earl C. Lohman.—A. C. Fuher, lumber company official, has bought an interest in the Kearns Motor Sales Co., becoming secretary; the firm name has been changed to Kearns-Fuher Motor Co., incorporated for $10,000.—L. K. Nichols has been made sales manager of the Interstate Motor Co.; W. C. Lundstrom, manager of Dort sales; C. O. Gildea, Velie sales; G. J. Seiler, Allen sales; all part of a re-organization of the company.—The John C. Doran Co. has received a special war department citation for its efforts in sending the majority of force to the war and re-employing them in peace time.—The Spokane Nash Motor Co., Nash car and truck dealer, has located temporarily at the Prest-O-Lite Battery Station, W1532 First Ave.

Tekoa, Wash.—Cole's Garage has been opened here, representing an outlay of $25,000; it is the largest and most modern garage in Whitman county and will handle Studebaker cars.

Everett, Wash.—L. C. Morhinway has added Skagit and Island counties to his Snohomish agency for Oldsmobile cars.

Georgetown, Wash.—Gunning & Nivison have opened the Reliable Garage here.

Hanford, Cal.—William Goodall Machine Co. will occupy a $10,000 garage being built on Sixth St.—Spear Brothers Auto Co. have leased a new modern garage to be built on Seventh St.

Stockton, Cal.—The California Auto Supply Co. and the D. & L. Garage have arranged a mutual exchange of business locations, the California taking the garage recently housing the Velie agency, and the Velie moving to the first company's former quarters on El Dorado St.—Hough & Hood, Overland Four dealers, have moved to the new Electric Garage on N. Eldorado St.

Merced, Cal.—Sixteen automobile dealers here have formed the Merced County Automobile Trade Association, to affiliate with the California Automobile Trades Association; R. Shaffer is president.

San Francisco, Cal.—The local parts depot of the Republic Motor Truck Co. has been located in a new building at Fourth and Welsh St., having 40,000 square feet floor space.—The King Eight Service Station has been opened on Turk St.; H. H. Gibbons is manager.—Walter R. Brown has been made manager of the parts department of the Scripps-Booth Co. of California.—Charles E. Williamson now heads the tire department of C. E. Herrick Co.

San Rafael, Cal.—F. F. Kearnert, of the Albert Garage, has taken the Maxwell agency.

Berkeley, Cal.—Z. M. Steves, well-known accessory dealer here, died recently.—George L. Geus has opened the Geus Hardware & Auto Supply Co. on Shattuck Ave.

Richmond, Cal.—Emmett C. Smith, formerly with Chanslor & Lyon, of Oakland, has bought the Mt. Diablo Garage from Frank Lucas for $8,000.

Mesa, Ariz.—The Bill Brooks Service Station has been bought by J. A. Weiss.

Chandler, Ariz.—Working space in the Chandler Garage has been increased 50 per cent by a new addition.

Somerton, Ariz.—Don Lions has leased a new $5,000 garage here.

Denver, Colo.—The H. R. Turtle Truck Co., 1944 Champa St., has been appointed Colorado distributor for Kleiber trucks.

Pasadena, Cal.—The Hester Motor Car Co. has been appointed Peerless car dealer.—L. S. Foulke has taken the Templar and Dorris car agencies for Eastern Los Angeles, Riverside and San Bernardino counties.

La Habra, Cal.—E. D. Cox has bought an interest in the La Habra Garage, owned by A. C. Henzler.

Yorba Linda, Cal.—Buckmaster Brothers succeed Stanley & Buckmaster Brothers as owners of the Yorba Linda Garage.

Porterville, Cal.—The Independent Garage has been sold by Al Mizner to Capt. B. F. Rice.

San Francisco, Cal.—The Massey Motor Co. has been formed here with $200,000 capital stock by Alfred N. Massey, Anna Massey and Robert Bilafer.

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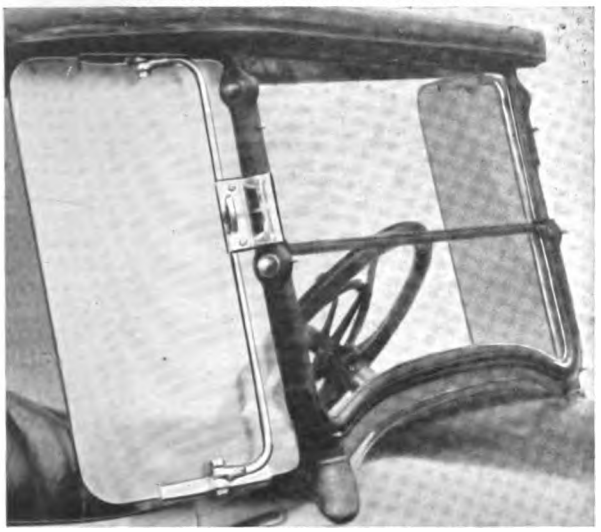
DE LUXE WINDSHIELD

"THE LAST WORD IN CAR COMFORT"



Protects Occupants from Wind and Dust and Adds Distinction to the Car.

De Luxe Has Extra Adjustment for Setting Shields to Create a Breeze in Hot Weather and Ventilate Car.

Only Shield Clearing Side Curtains.

Cast brass parts (non-rusting), finest nickel and black enamel, best windshield glass, two adjustments instead of one, designs to fit your car. **BEST. NOT CHEAPEST.** Installed in 5 minutes

PRICE $25.00

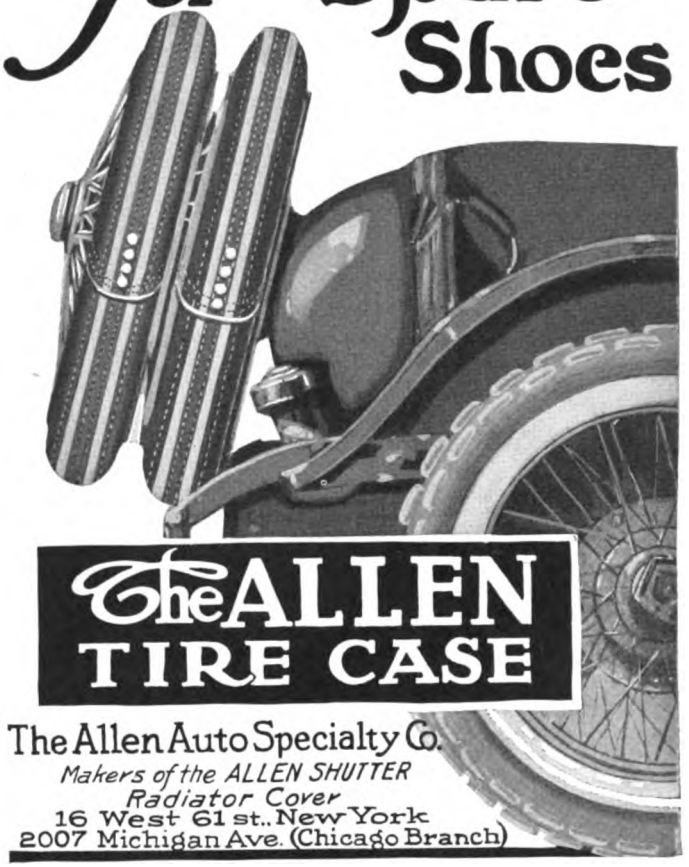
For Sale at All Dealers and Supply Houses.

DE LUXE WINDSHIELD CO.

341 LARKIN ST. MFRS. SAN FRANCISCO, CAL.

Mail orders promptly filled.

for Spare Shoes



The ALLEN TIRE CASE

The Allen Auto Specialty Co.

Makers of the ALLEN SHUTTER Radiator Cover

16 West 61 st., New York

2007 Michigan Ave. (Chicago Branch)

Think this over!

The strength of a chain only equals its weakest link and the best engine or machine built is useless if a vital nut gets loose.

DRAKE LOCK-NUTS

TRADE MARK REGISTERED U.S. PAT. OFF.

"NEVER JAR LOOSE"

WRITE FOR SAMPLE

Standard equipment covering vital points by many of the most careful manufacturers.

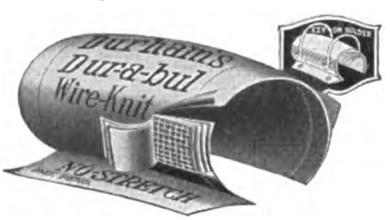
Try them on your upkeep.

Specify on all your new equipment—

DRAKE LOCK-NUT CO.

Cleveland, Ohio (*Plants*) San Fancisco, Cal.

Sell Yourself First!



You don't have to gamble one penny on Durham's DUR-A-BUL Wire Knit Blow-out Patch. We'll send a sample for test purposes—**absolutely free.**

See how this patch is made. See the **patented** knit steel wire construction that adds strength and prevents stretching. See the vast difference between Durham's DUR-A-BUL and ordinary patches—**then** you'll stock and push it. Durham's DUR-A-BUL Patch is easily sold and a sure repeater. That means big profits for YOU.

Write for your sample and our sales proposition—**today.**

DURHAM MANUFACTURING CO.

Dept. F. :: Kansas City, Mo.

Pacific Coast Distributors

U. S. Manufacturers Sales Co.

Portland, Oregon

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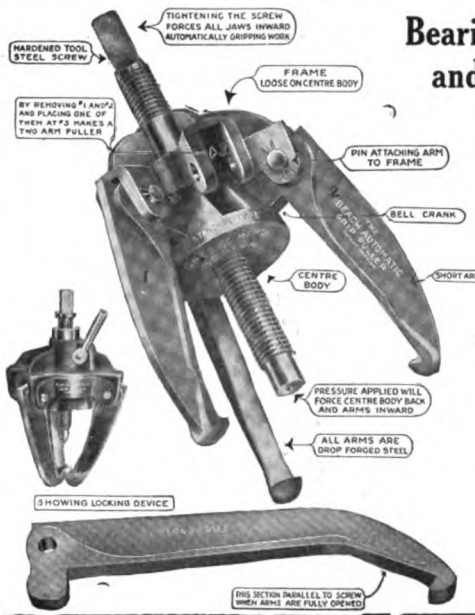


Bearing, Gear and Wheel Pulling Made Easy

by using the latest and best made tools.

No tool will help a repair-man more than the

GREB AUTOMATIC GRIP PULLER

BEACH PATENT

It has a positive grip, can be locked in any desired position, cannot unhook, and adjusts to work instantly.

TEN DAYS' TRIAL. If your dealer or jobber does not have them, we will send you one. Try it for ten days. If not satisfactory, return it to us and we will refund your money.

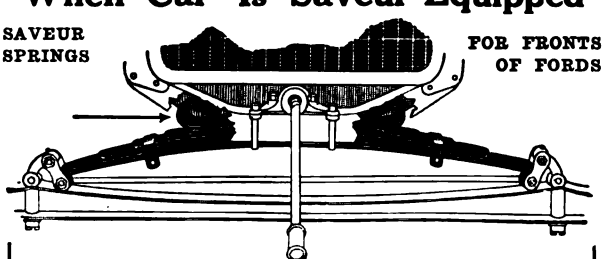
JOBBERS AND DEALERS: Get our Proposition.
We also make the Greb RimTool, Greb Auto Lock and Greblox Solder Cement.

THE GREB CO.
227 State St., Boston, Mass.

10 DAYS TRIAL

No Ford Spring Trouble When Car Is Saveur Equipped

SAVEUR SPRINGS — FOR FRONTS OF FORDS



THE HARDEST BLOWS HAVE NO EFFECT ON THE SAVEUR

This perfected Ford Front Spring withstands the severe blows that flatten ordinary plain springs. The open loops absorb the added strain and positively eliminate spring breakage.

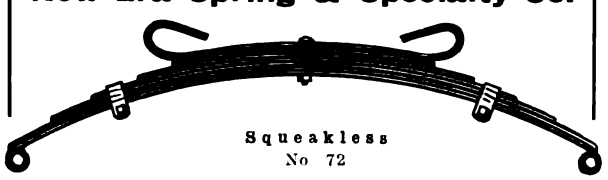
Saveur Ford Front Springs are oil tempered throughout their length and graphited between leaves, which gives them a two-years' lubricating service.

The Saveur saves unnecessary breakage of radius rods, bent axles, steering knuckles, etc.

Saveur Ford Front Spring, complete.....$6.50
Saveur Open Looped Leaf Only.....$2.50
Quickly fitted on any Ford Spring.

Write for complete circular and nearest jobber's address.

New Era Spring & Specialty Co.



Squeakless
No 72

1190 Hamilton Ave., Grand Rapids, Mich.

Portland, Ore.—The Sunset Electric Co., U.S.L. battery distributor, has occupied its new $35,000 building, with 20,000 square feet of floor space.—Will J. Lester has been elected president of the Portland Garage & Repair Men's Association.—The Kelly-Springfield Tire Co. has opened a new factory branch, C. H. Mead, manager.—The Oregon Motor Car Co. has sold its repair business to Robert Hughson and Bruce Hollingsworth.—The Herman Steam Motor Co., capital stock $250,000, has been formed by John Herman, M. F. Moran, Harry Wheeler and D. E. Griffin.—A. J. Montgomery, L. A. Hanlon and W. W. Churchill have incorporated the Aetna Garage.—The Portland Motor Car Co., Packard and Nash dealers, is having its floor space doubled by the building of a new addition at Tenth and Couch Sts., giving an area of half the block.

Hood River, Ore.—Herbert Field, Hal Nesbitt and J. L. Stewart have taken the Lexington car and Atterbury truck agencies; they will build a $20,000 garage on Fifth St.

Jerome, Ariz.—Harry Hunter has sold his interest in the Clarkdale Garage to L. W. Barker.

Tempe, Ariz.—J. B. Johnson has sold his garage to Frank Baker.

Denver, Colo.—The George Lopez Co. has been made Colorado and Wyoming distributor for Wilson trucks.

Oroville, Cal.—V. B. Hayes, of the Hayes Machinery Co., has been appointed Butte county agent for Kleiber trucks.

Woodland, Cal.—The Goodrich, Ballard & Rouse Tractor Co. has opened here, with R. H. Hastings manager, handling Moline Universal tractors.

Sacramento, Cal.—Earle C. Anthony, Inc., California distributors of Packard, Reo and Dort cars, will build sales quarters at Sixteenth and K Sts.

Brawley, Cal.—Kleiber trucks in the Imperial Valley will be handled by John D. Reavis, located in the Mission Bldg.—The Mission Garage has been bought by John D. Graham and H. G. Glennon; they will operate it as the Service Garage.

San Diego, Cal.—Haddan & Maddux have been made San Diego and Imperial county agents for the Moon Victory Six.—The White Garage has been bought by H. R. Kidney.

Corona, Cal.—The Day's Oil & Supply Service Station has been opened here.

Colton, Cal.—E. G. Luckey has opened the Gate City Tire & Vulcanizing Co.

Banning, Cal.—G. M. Fountain has built an oil supply and vulcanizing shop adjoining the Banning Garage.—Indiana trucks and Dodge cars will be handled here by C. A. Sweeter.—Elmore & Searcy have bought the Sweeter Spring Works here.

Riverside, Cal.—H. A. McCliment has been made Victor tire dealer for Riverside county.—J. R. and J. M. Johnson, under the name of the Johnson Co., are now Fordson tractor and farm implement dealers here.—W. A. Lyberger has opened the Riverside Auto Top Works on Seventh St.—The Red Star Co. has opened on Eighth St. as Riverside and San Bernardino county agency for Oldfield tires.—T. A. Kise, pioneer automobile painter, has moved to the Armory building; he now employs seven men.

Santa Paula, Cal.—J. W. Shreve has become a Victor tire dealer.

Corona, Cal.—C. E. Hardke has bought the Circle City Garage from the Grace Motor Car Co.

Peerless Piston Rings

Holds Oil Down

Maintains Compression

NOTE LOCK JOINT

C. D. HELLYER
909 S. Grand Avenue
Los Angeles

BARNETT AUTO BODY CO.
430 Golden Gate Avenue
San Francisco

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Hindview Auto Mirrors

STYLE "C"

Hindview

FOR OUTSIDE OF CLOSED-BODY CARS.

Style "C" is fastened by wood screws to outside of Closed Body Cars, such as the Coupe, Cabriolet, Sedan or Limousine.

Has ball joint and is furnished in all standard finishes with plain or lens plate glass mirror.

Send for Folder No. 19 describing the entire line.

A. E. MOHRIG, 340 Phelan Bldg., San Francisco, Cal.
Pacific Coast Representative

Kales Stamping Company

444 West Lafayette Blvd. DETROIT, MICH.

See Our Exhibit at the New York and Chicago Passenger Car Shows.

A GASKET PAPER
MADE FOR EVERY USE

Except in contact with extreme heat.

TRADE ADPASCO TREATED GASKET PAPER MARK

It Is Water-Proof—Try It.

Supplies A Need—Means A Saving Reasonable in Price

Here is a specially treated gasket paper that every shop needs right now—**efficient, economical, dependable.** Don't use costly Asbestos Packing—and don't use wrapping paper makeshifts. Adpasco Treated Gasket Paper because it fills a big need and is very inexpensive is now in use of thousands of good shops. You need it in your own shop. It will save waste and delays—and make money for you.

Made in sheets 36 inches by 40 inches—weight per sheet approximately 12 ounces.

Send Today For Prices and Samples

Ask your Jobber for details, but if he can't supply you NOW, send us his name and let us mail you prices and free samples. Don't delay—act now—at once.

Advance Packing & Supply Co.
17 North Franklin St. Chicago, Ill.

ALLIED INDUSTRIES, INC., Pacific Coast Representatives
283 Minna St., San Francisco, Cal.; 340 Azusa St., Los Angeles, Cal.; 1252 First Ave., So. Seattle, Wash.

OBSERVING THE SIGN POSTS

That Point the Way to Better Automobile Lighting.

With what candle-power headlight bulbs is your car equipped by experts at the factory?

Ans. 17 to 20 c. p.

What is the highest c. p. recommended by the State Highway Department of California?

Ans. 20 c. p.

What headlight lens is guaranteed to give a satisfactory driving light with 15 to 20 c. p.?
Ans. The PARAB-O-LIGHT.

PRICES $3.25 TO $4.25

J. D. FRENCH COMPANY

3032 DAVIS STREET SAN FRANCISCO, CAL.
Pacific Coast Distributor

Economy TIRE COVER
for profit

—There is a handsome profit for you in the Economy Tire Cover. The only tire cover that is new in principle and design. Easy to adjust and will fit any make or tread of tire used on wood or wire wheels. Write today for the facts and see how easily you can increase your income.

SOLD BY ALL JOBBERS.

The Economy Tire Cover Co.

1319 Margo Street :: Los Angeles, California

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FOR YOUR BATTERY'S SAKE!

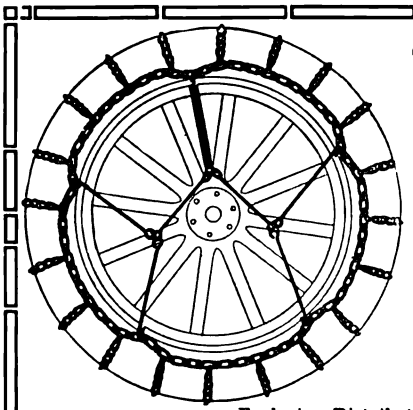
Use the Genco Battery Filler—keeps dirt, dust and grease out of your battery cells. The dial cap with MOVABLE INDICATOR records last date battery was filled and tested. RESULT—Better lights and never-failing starter. The dial is water and acid-proof and will last a lifetime. Genco Filler costs $2. Dealers and Jobbers write for full information and increase your profits. Manufactured only by

General Scientific Equipment Co.
North Philadelphia, Pa.
Hydrometer Manufacturers Since 1893.

Eliminate Oil Pumping and Compression Leaks with—

WEDGE RITE PISTON RING CO. INC.

J. E. BENEDICT COMPANY
1212 South Figueroa Street Los Angeles, Cal.
Factory Representatives West of the Rockies



Save Your Chains

Merchant's Auto Skid Chain Tightener

Don't loose your chains. They are costly. The Merchant's Auto Skid Chain Tightener grips them at 5 points and holds them, yet they allow sufficient flexibility to permit the chain to properly creep on the tire. Stops noise. Saves tires.

Write for Full Particulars.
M. H. MERCHANT CORP.
236 Emma St., Syracuse, N. Y.

Exclusive Distributors:
GRAY-HEATH CO., 1440 S. Michigan Ave., Chicago, Ill.

Los Angeles, Cal.—The United Corp., new Holmes air-cooled car dealers, have moved to 756 S. Grand Ave.—The Albertson Motor Co., Dodge dealer, has been incorporated for $500,000 by Fred S. Albertson, Myron C. Albertson, Hazel H. Albertson, Fred M. Cox and David M. Hanna.—Capital stock of the Pacific Rubber Co. will be increased from $50,000 to $250,000.—Dowling, Fisher & DePalma, Metz, Biddle and ReVere car dealers, are having a fine new building erected for them at Sixteenth and Figueroa Sts.—The Pacific Cotton Mills Co. has applied for permission to change its name to Goodyear Textile Mills Co.—The Alemite Lubricator Co. of California has been incorporated by C. A. Roesch, J. C. Dennerlen, B. F. Gray, R. W. Foyle and S. F. Seager.—The J. B. Wood Tire Co. has been incorporated by J. B. Wood, David Duncan and W. B. Ogden for $100,000.—Spencer & Morris, Inc., dealers for Case cars, Selden trucks and Case tractors, have succeeded Spencer, Morris & Mang, Inc., Mang withdrawing from the firm.—The new Southern California branch of the Cleveland Tractor Co. has been located at 1025 S. Grand Ave.

Klamath Falls, Ore.—Fire caused by using a blowpipe to thaw a frozen water pipe did $30,000 worth of damage to forty stored cars and working equipment in the White Pelican Garage, owned by W. B. Kyle, of San Francisco.

Willows, Cal.—Fred D. Danner has bought the Walnut Street Garage from VanDyke & Son.

Calistoga, Cal.—Myers & Dinwiddie have opened the Electric Garage.

Roswell, N. M.—Eugene Harper and Sidney Hamilton have opened the H. & S. Garage here.

Salmon, Ida.—William Yearian, manager of the Lemhi Auto & Supply Co., has bought the business.

Caldwell, Ida.—J. P. Brown has bought the Gardner Garage on Kimball St.

Centerfield, Utah.—Willard Jensen has built a concrete garage for the Jensen Garage & Machine Co.

Exeter, Cal.—R. M. Chambers has taken the Elgin Six and Stearns-Knight car agencies.

Use Motor West

¶ Every Eastern automobile or accessory manufacturer can help his Pacific Coast representative increase his sales by a liberal use of the advertising columns of MOTOR WEST.

¶ Coast dealers and factory representatives should insist on the factory folks giving them the same advertising support in "The Motoring Authority of the Pacific Coast" as is accorded the Eastern and Middle Western dealers and representatives in the motor trade journals published in those sections. Otherwise the dealers and representatives here, who pay their proportionate share of the expense of advertising in the Eastern and Middle Western journals (and incidentally receiving very little benefit from it) are paying for something they do not get.

THINK IT OVER!

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BARNEY

"The Most Trustworthy Tires Built"

THE OLDFIELD TIRE CO.

BARNEY OLDFIELD, *President*
CLEVELAND
Export Department: 42 Broadway, New York

SIOUX
Trade Mark Reg. U.S. Pat. Office

Sioux Tools have set up a new standard of efficiency in

Removing Bushings, Re-Facing, Re-Seating, Grinding

any and all valves

There is only one best—the "Sioux"

ALBERTSON & CO. Manufacturers, SIOUX CITY, IA.

SECURITY AUTO LOCK

The original loose wheel lock for Fords. Approved by under writers. Insurance reduced 15%. Made of solid brass. Nickel plated. Easily installed in 10 minutes. No drilling. No filing.

No sawing.

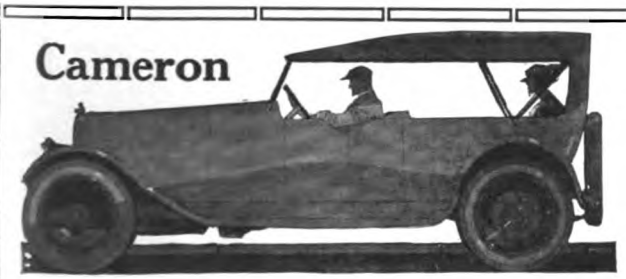
No chiseling.

Price $6.50.

Western Distributors Wanted.

SECURITY AUTO LOCK CO.
410 N. Paulina St.
Chicago, Ill.

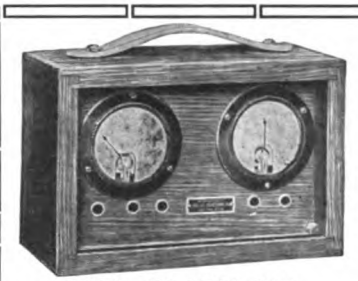
Cameron



AIR-COOLED

Light Weight High Mileage Splendid Equipment, $2,000.

CAMERON MOTORS CORPORATION
2 COLUMBUS CIRCLE NEW YORK



We manufacture electric testing, charging and magnetizing instruments for use in garages and service stations.

We publish the world's best book on motor car electric systems, showing wiring and circuit diagrams back to 1910. Also includes the elementary principles that you should know. Price delivered to you, $2.50.

MODEL 502 TEST SET
Price $25.00 prepaid to you.

Complete Catalog Free.

We have openings for a number of Western dealers. Write for our free catalog and dealers' proposition.

H. E. PHILLIPS & CO. Union City, Indiana
(Formerly Phillips Engineering Co. and Auto Electric Systems Publishing Co., Dayton, O.)

MOTOR WEST

reaches a larger percentage of dealers than any automobile publication circulated on the

PACIFIC COAST

WINTHER MOTOR TRUCKS

Simple as A B C

THE reason for the Winther supremacy in both sales and service is as simple as A,B,C. Development as a direct result of war-time conditions, Winther best met the needs of a nation at war and best meets the need of a nation in peace.

WINTHER (REAR DRIVE) AND WINTHER-MARWIN (FOUR-WHEEL DRIVE) TRUCKS ARE EACH BUILT IN SEVEN SIZES, 1½ TO 7 TONS CAPACITY.

WINTHER MOTOR TRUCK COMPANY
Dept. 20. KENOSHA, WIS.

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Of Interest to the Owner

ADVICE IN SEASON ON TIRE CHAINS.

Anti-skid chains should not be fitted so tightly that they cannot slip slightly. For this reason chain manufacturers do not advise the use of springs to hold the side chains from moving.

After a chain has been used a while there will be some wear where the links join, resulting in the chain stretching. One or two links on both the side chains can then be safely removed, or as many side-chain links as will not make it too difficult to use mere hand strength in forcing the connectors together when the chain is put on the wheel.

Chains should be just tight enough on the wheel to prevent any part hitting the fender, unless the fender is very close to the wheel, or a cross chain breaks. A broken cross chain should be at once cut out, then the side chain drawn up another link to make up for the greater give in the chain.

When the side chains are held taut by any means the cross chains remain in one place and wear the tire in one place. Moderately loose anti-skid chains are the one best bet for the careful and economically minded driver.

TESTING VALVE SPRINGS.

A valve spring may be suspected of defective operation. An emergency test is to pry the spring coils apart with a screwdriver while the engine is running. If this improves the running of the engine the spring is weak.

More accurate is the method by which before new springs are installed they are weighed, that is, a certain weight is applied to them, and then the amount of compression is weighed.

No spring will show exactly the same compression; it is a good thing to get this information from the factory. As to the weighing device, there are many kinds. A cheap and simple one consists of a weighted box running in guides with a mounting underneath for the valve spring.

The weight of the box and the material in it is ascertained, the spring is put in place, the weight lowered on it and the extent to which the spring is compressed is measured with a scale.

TO TRUE MISALIGNED WHEELS.

Some owners are observant enough of eye to notice at first hand that their car wheels are out of correct adjustment. But many more discover bad alignment only through its effects—uneven wearing of tires.

To line up the wheels: Run the car on a level surface and turn the wheels as straight ahead as possible. Place four chairs or sawhorses so that each one stands about 2 feet from each wheel. Stretch two strings, supported on the chairs, on each side the car and parallel to its frame. The strings should come within ¼ or ⅛ inch of the wheel felloes and at a certain height either above or below the hub. The distance from the strings to the felloes is measured on each wheel on each side of the hubs and any misalignment will then be discovered.

ORDINARY JACK WILL OVERCOME BALKY RIMS.

Demountable rims frequently get out of shape or out of round after long use and many tire changes. The distortion is usually worst at the break or fastening and then the rim becomes difficult to handle. Excessive pounding of heavy hammers makes matters worse.

If you have a second jack your troubles will disappear. The jack may be used to spread the rim enough to allow it to be put in place, where it generally straightens itself out after the holding lugs are applied. Or, without a second jack:

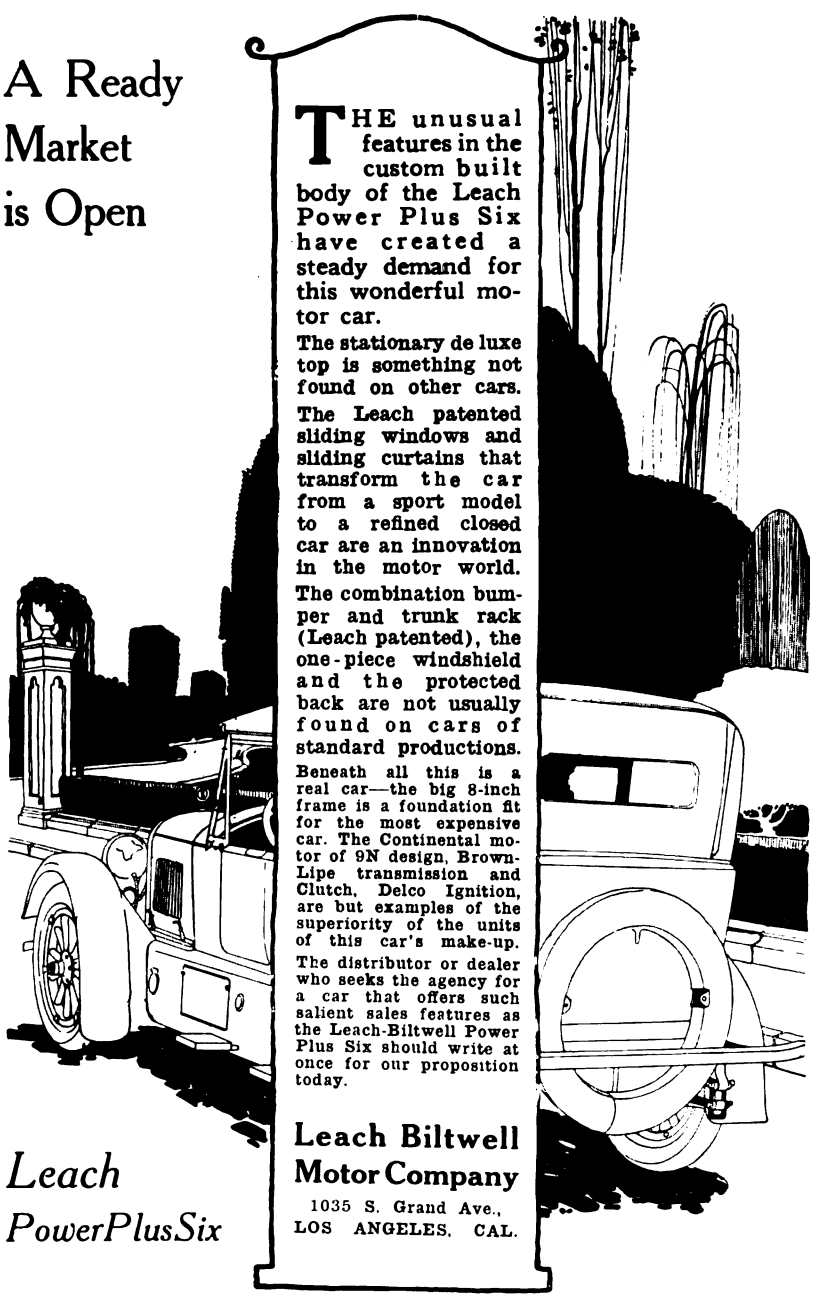
Set the spare rim on the felloe band at the valve stem. Turn the valve stem side down, first tying the other side so it will not fall away. Have some one else, if possible, hold the rim in place. Then let the axle down by the jack under it. The wheel then rests on the tire and the jack may be removed and placed, as in the method, between the hub and the rim. A little pressure given by working the jack quickly and easily will spring the rim enough to allow a sharp blow with a hammer to set it in place.

After this it will be wise to jack up the axle again so the retaining lugs may be set in place evenly. You should see that no lug is farther in than another, that there is an equal space all around between rim and felloe band. Otherwise the rim will be slightly out of round, meaning a thump on the bearings and uneven riding on that one wheel.

KEROSENE REMOVES SQUEAK IN SPRINGS.

Springs that squeak may be cured by being treated liberally with kerosene. The car should be jacked up, so that its weight is not on the springs and allows them to expand slightly. To give the kerosene time to soak in between the leaves of the springs the car should be run for a day or two, then the springs should be saturated again with some of the old oil drained out of the crank-case. After a day's run the excess oil that shows should be wiped off, so that it does not aid dust to collect on the springs.

A Ready Market is Open



THE unusual features in the custom built body of the Leach Power Plus Six have created a steady demand for this wonderful motor car.

The stationary de luxe top is something not found on other cars.

The Leach patented sliding windows and sliding curtains that transform the car from a sport model to a refined closed car are an innovation in the motor world.

The combination bumper and trunk rack (Leach patented), the one-piece windshield and the protected back are not usually found on cars of standard productions.

Beneath all this is a real car—the big 8-inch frame is a foundation fit for the most expensive car. The Continental motor of 9N design, Brown-Lipe transmission and Clutch, Delco Ignition, are but examples of the superiority of the units of this car's make-up.

The distributor or dealer who seeks the agency for a car that offers such salient sales features as the Leach-Biltwell Power Plus Six should write at once for our proposition today.

Leach Biltwell Motor Company
1035 S. Grand Ave.,
LOS ANGELES, CAL.

Leach PowerPlusSix

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EISEMANN MAGNETO

The Kentucky Wagon Mfg. Co., which has used Eisemann ignition as standard equipment on its trucks for some time, has just contracted for Eisemann Magnetos for the "Dixie Flyer," its passenger car.

The Eisemann Magneto Corporation, 32-33rd St., Brooklyn, N. Y.
Chicago, 910 S. Michigan Ave. Detroit, 85 Willis Ave., West.

PBB

BALL BEARINGS REGROUND

Large stock of all standard sizes on hand for immediate exchange.

Special Bearings Made to Order.
Factory Distributors for New
FAFNIR BALL BEARINGS
BOWER ROLLER BEARINGS

PACIFIC BALL BEARING CO.
415 West Pico Street Los Angeles, Cal.

SUNDERMAN $7.50
Vacuum Carburetor
F. O. B. Newburgh N. Y.

Model F, for Ford, Metz and Saxon Four, has shown marvelous gasoline economy and remarkable increase in power.

Perfect carburetion can be secured only through perfect mixing of gasoline and air in proper proportions. The Sunderman Carburetor not only produces such a mixture but breaks up the gasoline globules so finely that a MORE POWERFUL mixture is the result. Sunderman-equipped cars save from 30 to 50% in gasoline—increase mileage from 42 to 100%.

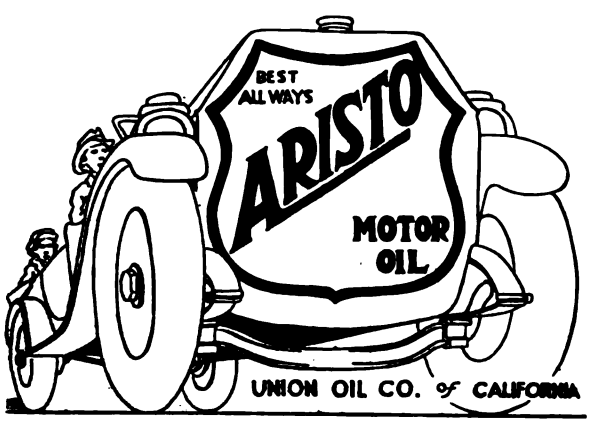
Order at Once—Splendid Dealer's Proposition.

SUNDERMAN CORPORATION, 17 Chambers St., Newburgh, N. Y.

MORE POWER --- LESS FUEL

SU-DIG SERIES PLUGS are the only spark plugs that produce TWO SIMULTANEOUS SPARKS in each cylinder when connected with the ordinary plug. The two opposed sparks ignite the mixture at two points at once. This burns the gas more than TWICE AS FAST, resulting in a wonderful INCREASE in POWER and GASOLINE MILEAGE, and WITHOUT ANY CHANGE IN THE PRESENT EQUIPMENT.
Free booklet, "How to Get More Power." Write for it. Please mention car.

CHANSLOR & LYON CO.,
San Francisco, Los Angeles, Fresno, Oakland, Seattle, Portland.
McCOY MOTOR SUPPLY CO., San Francisco, Los Angeles.
SUPERIOR MOTOR POWER CO.,
135 D Fifth Avenue New York



MORELAND TRUCKS

All Morelands burn Distillate

They are reliable, rugged and powerfu transportation units

Moreland Motor Truck Co.
1701-31 N. Main Street Los Angeles, Cal.

BEST FOR THE WEST

MOTOR WEST

Reaches a larger percentage of dealers than any automobile publication circulated on the

PACIFIC COAST

NO CARBON—MORE POWER—LESS FUEL Price 50c up

On market 5 years. Over 10,000,000 sold. Every set guaranteed. Popular thru service. Don't rebore cylinders. "NO-LEAK-O" makes good when others fail. Made different. Gives results no other ring can. Write for booklet. Order from nearest Jobber, or write direct.

We are leaders in the ring business, not followers.

NO-LEAK-O PISTON RING CO., Baltimore, Md.

LOS ANGELES WAREHOUSE COMPANY

MAKES A SPECIALTY OF AUTOMOBILE STORAGE

CARS UNLOADED DIRECTLY INTO WAREHOUSE

316 COMMERCIAL STREET
14727, Main 4787

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MOTOR WEST'S REGIONAL MOTOR MART

RATES—One time, $4.00 per inch; three times, $3.75 per inch; six times, $3.50 per inch; twelve times, $3.25 per inch; twenty-four times, $2.75 inch

CYLINDER WORK

SCORED CYLINDERS
REPAIRED BY
Lawrence Patent Process

Fused with our silver-nickel alloy. Same pistons fit. Reshipped 24 hours after received. Approved by all motor manufacturers. Guaranteed for life of motor.

Established 1862

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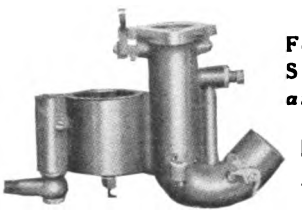

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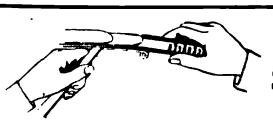

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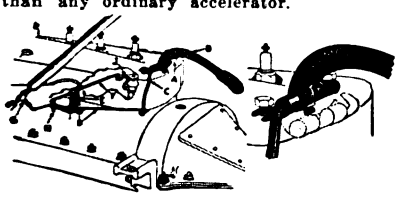

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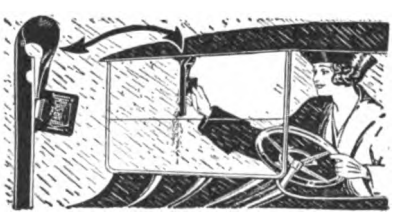

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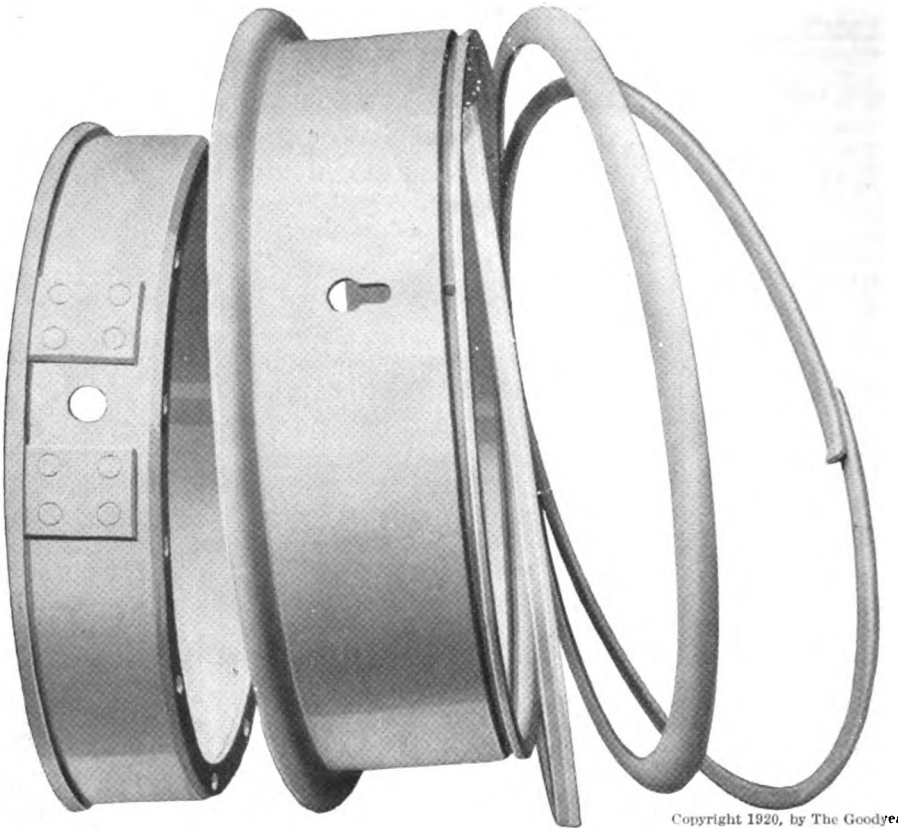

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Goodyear pioneered the straight side tire by pioneering a rim which made the use of straight side tires entirely successful.

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Plain linings cannot stop the rattle and jar!

Ford cars need Advance Cork Insert Linings.

Advance Cork Insert Linings never get a hard, slick surface. The cork surfaces always remain soft, smooth and velvety. They do not soak up oil.

Advance Cork Insert Lining outwears three sets of any other lining—always gives a sure, smooth break.

When you change linings always insist on Advance Cork Insert because it lasts so long and is the only lining that makes a Ford run smooth.

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$3.25 Rockies West
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Dealers!

You know that ordinary linings for Fords are a source of trouble. Your Ford owner customers know it, too. Why not sell them Advance Cork Insert Lining. It gives no trouble. Wears extremely long and helps the operation of the transmission.

You can get them from your jobber or write us direct. Have you our window and counter cards working for you? Get them. We supply them free of charge.

Advance Automobile Accessories Corp., 56 E. Randolph St., Chicago

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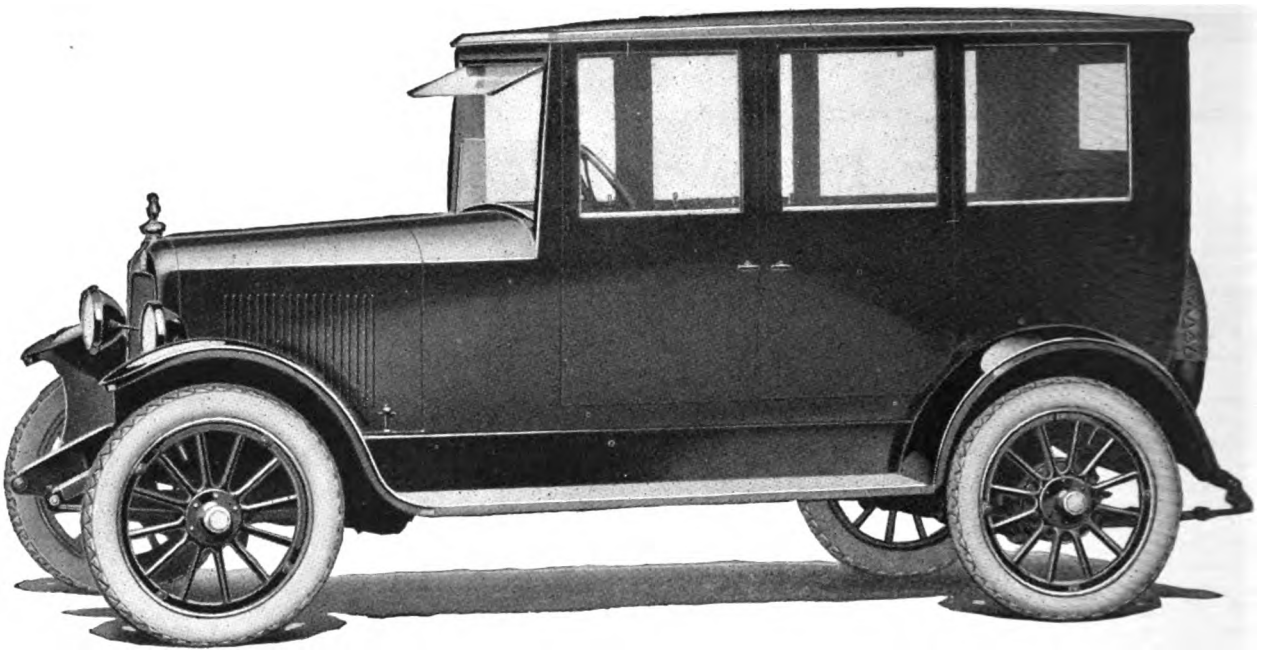

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At the big national shows, and at the various local shows as well, this leader of light-weight cars will be on exhibition.

No car will more completely satisfy your every desire, alike for beauty, economy, comfort and staunchness.

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Pacific Coast Show Number

— OF —

MOTOR WEST

WILL BE ISSUED

February 16

in connection with the Fourth Annual Pacific Motor Show in San Francisco, where it will be largely distributed.

*

Will contain a resume of automotive trade conditions on the Coast, and an outline of prospects in all branches of the industry for the present year.

*

Last advertising forms will go to press at 6 o'clock on the evening of February 13th, and advertising copy can be handled up to noon on that day.

*

Eastern advertisers are urged to forward copy at least 15 days in advance of publication date.

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LOS ANGELES, CALIFORNIA

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Announces

THAT ALL SALES OF RAYDEX AUTOMOTIVE PRODUCTS WILL BE DIRECTED BY

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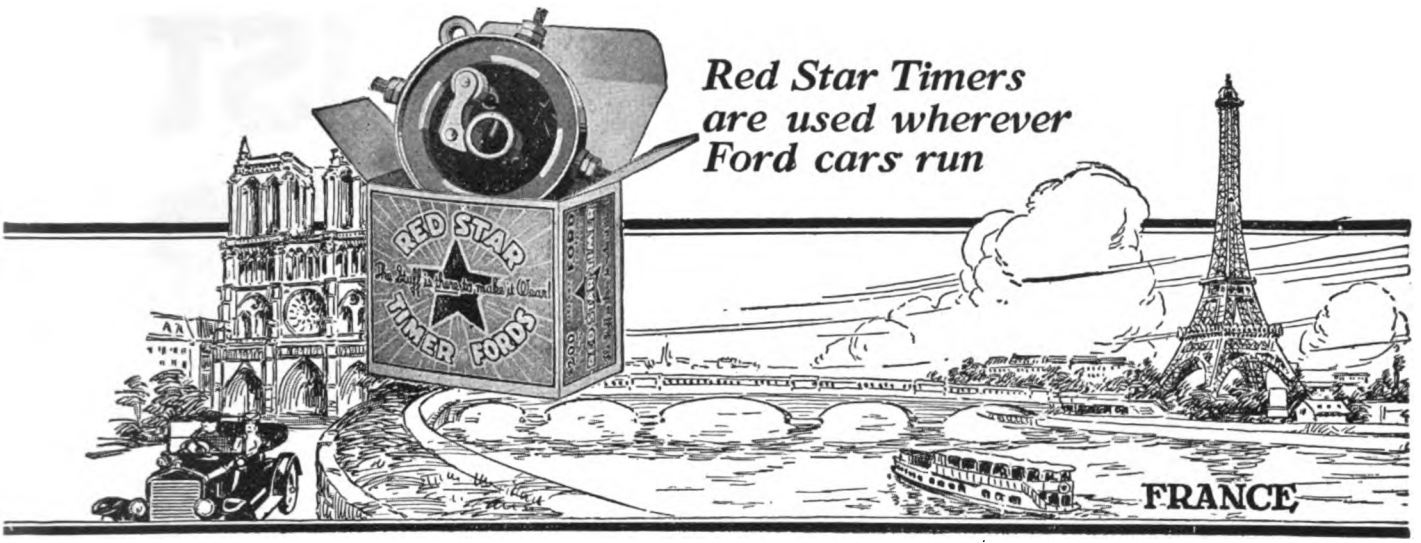


FORD owners *everywhere* have learned that Red Star Timers make their motors easy to start — give them more power — make them run more evenly and smoothly — and keep them hitting on all four.

The construction of the Red Star roller, a special Red Star feature, guarantees extremely long wear. The roller-on-a-roller prevents dragging or wearing angular. Red Star rollers always roll in perfect contact with the race.

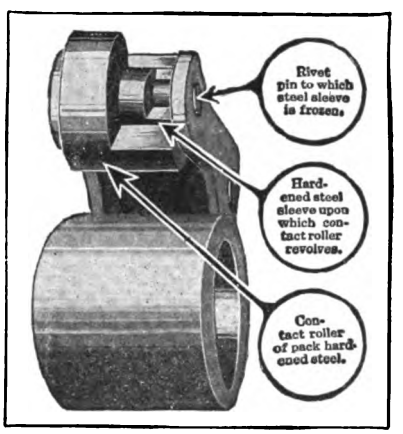
The Red Star fibre race is made of the highest grade fibre, with the steel contact shoes mortised into it. The whole race is ground and polished extremely smooth. It wears evenly — smoothly. It does not pit — furrow, or get rough.

A Red Star Timer on your Ford will be a source of surprise and pleasure to you. It will put life into your motor. Your dealer handles Red Stars; or we'll send one direct upon receipt of $2.00.

DEALERS:—Your jobber handles Red Star. You should have them in stock, too. Advertising, reputation, quality, and the Red Star trade mark make Red Stars a fast moving, profitable stock. Ask your jobber. If he does not quote you promptly, write us.

Auto Components, Inc.
56 E. Randolph St. - Chicago

Red Star Timer
FOR FORD CARS-TRUCKS AND TRACTORS



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Odd Sizes of Tires

We manufacture odd sizes and can make prompt deliveries in 36x4, 36x5, 37x4½, 37x5½, 38x5½, 39x6

There is nothing mysterious about making a perfect tire. Correct formulas and successful construction methods are well known. It is simply a matter of spending the money. We've spent it—and Samson quality is the result.

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Do YOU want to break into the profits that dealers are making on this live seller?

Write us today.

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A 30x3½	21.45	24.35	3.90	4.60
A 31x3½	22.00	25.00	4.00	4.80
BC 32x3½	24.10	27.10	4.25	5.05
34x3½	.....	.....	4.60	5.45
A 31x4	30.55	34.30	5.45	6.00
BC 32x4	32.45	36.55	5.60	6.15
BC 33x4	$32.65	$37.30	$5.75	$6.35
B 34x4	34.40	39.25	5.90	6.45
C 35x4	36.00	39.95	6.00	6.70
BC 36x4	37.20	40.20	6.20	6.80
32x4½	.....	.....	6.60	7.70
BC 33x4½	38.45	46.40	6.70	7.95
B 34x4½	38.65	46.85	6.85	8.15
BC 35x4½	$41.20	$48.25	$7.10	$8.35
B 36x4½	41.90	48.75	7.35	8.65
BC 37x4½	42.30	49.35	7.60	8.95
33x5	.....	.....	8.30	9.55
BC 35x5	54.10	61.95	8.50	9.75
BC 36x5	54.80	62.85	8.80	9.95
BC 37x5	56.05	64.65	9.00	10.25

A—Clincher. B—Straight Side. C—Quick Detachable.

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Main and Sales Offices 333 W. Pico (Pico at Grand), LOS ANGELES.

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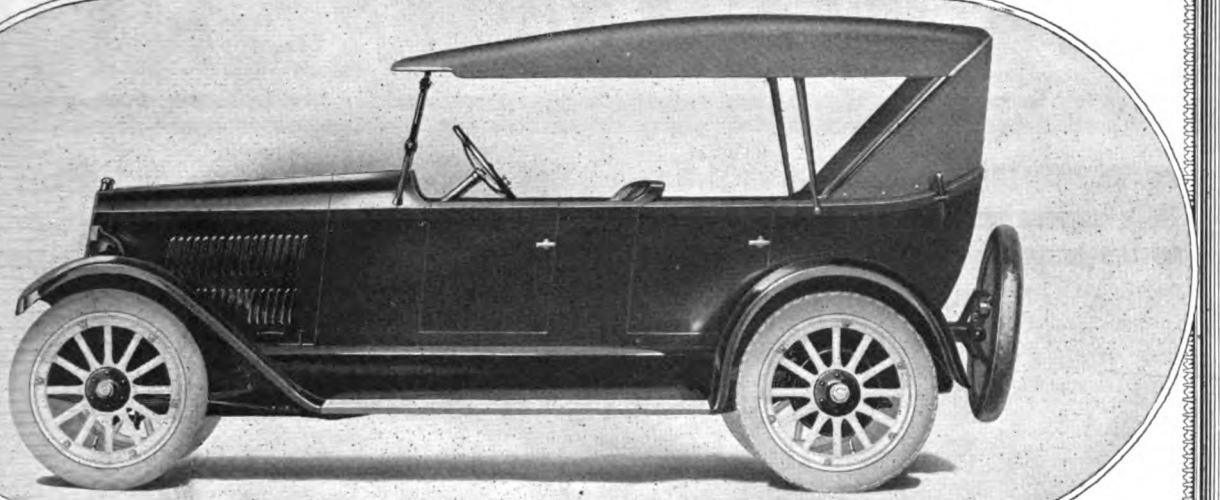

5-Passenger Touring Car
3-Passenger Roadster
5-Passenger Sedan
4-Passenger Coupe

The Latest Mitchell Creation

A Sensation In Design

ONCE again Mitchell Sixes depart from old-time motor car ideas. These cars now present the greatest forward stride in body designing—a new standard which forecasts the future style trend.

The great success of last year's Victory Model, which improved former light six types in scores of ways, has indicated the public's appreciation of the Mitchell's mechanical advancements. So we have made few chassis changes, merely adding several refinements, and increasing mechanical accuracy in manufacture.

This latest Mitchell creation is a study in body design. When you see it you'll realize that it is the culmination of months of development by master designers.

The new Mitchell will instantly appeal to your sense of individuality, style and harmony. Note the graceful slant of the radiator; the harmonizing lines of hood, windshield and doors. Note the long sweep of the body; the swift, rakish appearance. See how clever designing has done away with the unsightly vertical lines which have always given motor cars a blunt, unfinished look.

Then see how roomy this body is. Note the extent of floor space—the wide and deep seats. Comfort has been made a special issue. The body rests on long cantilever springs which insure utmost riding ease.

Masterful workmanship will be found throughout—even in the smallest details. In these new bodies, items commonly given slight attention are the subject of thoughtful care. Only custom-built bodies or those found on the most expensive cars are comparable.

Make no new choice until you have seen these new Mitchell Sixes and the exceptional value they offer—value in long life, economical operation, comfort, beauty and individuality. Write for illustrated catalog.

To Dealers: Several opportunities await aggressive dealers. Write for information

RACINE Mitchell WISCONSIN U.S.A.

MITCHELL MOTORS COMPANY, Inc.
Racine, Wis.

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Transport Experience Wins THE FARM MARKET

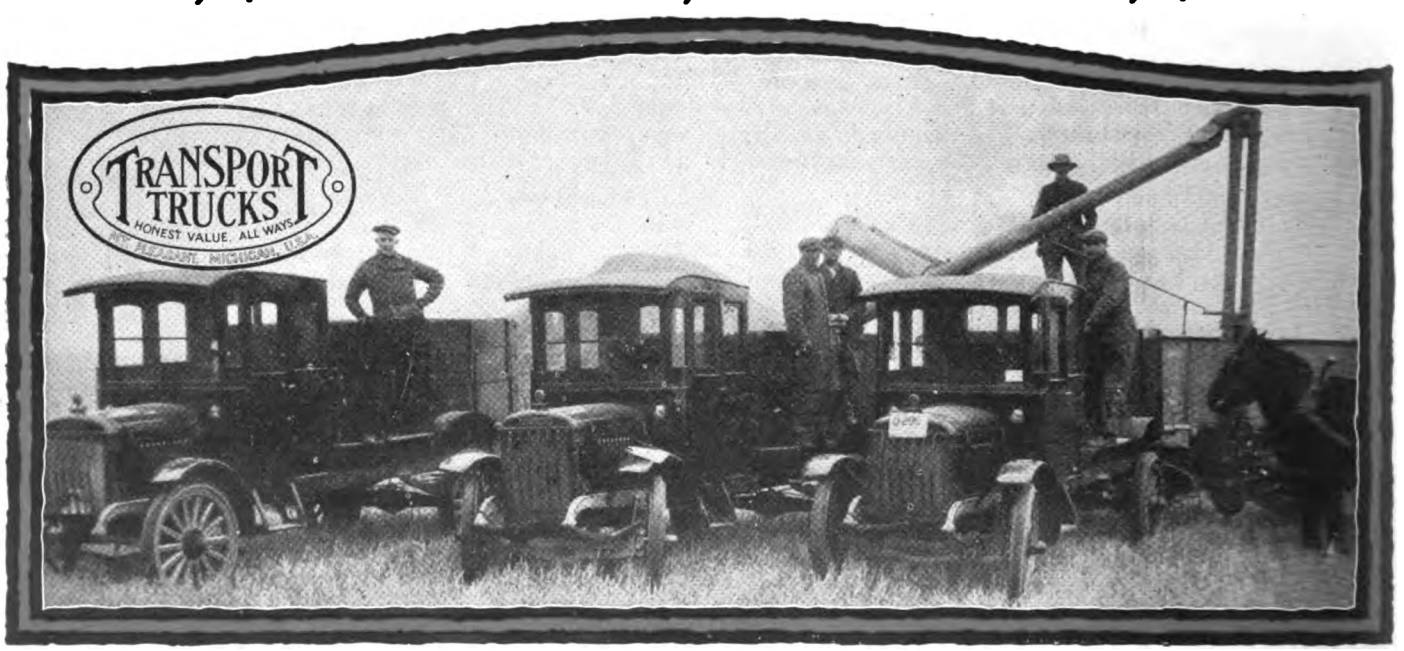
WITH the upsweep of the truck business—promising a year surpassing the highest predictions—many concerns new to the industry are attracted to this profitable field. More valuable than ever to the dealer is the long manufacturing experience that covers the *development* of the motor truck—its adaptation to varied service—the support of the dealer in building his market.

Many Years of Successful Experience Back the Transport

The men who make and sell the Transport have built success into motor transportation for many years. No men are better known to the truck dealers of the country. It is their "know how" that is giving the Transport its marked advantage in gaining the farm market wherever introduced.

Get acquainted with our men, our factory and our resources, and you will understand why leading dealers are tying up with the Transport.

1-ton, $1750 1½-ton, $2050 2-ton, $2585



TRANSPORT

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Transport Experience Wins THE CITY MARKET

IN every line of business in the city, as well as in the country, the Transport is the unusual truck success. This is because Transports are as near frictionless as it is possible to build, due to perfect radiation—correct mounting angle of drive shaft—rear axle mounting—accurate distribution of weight—hot spot manifold assembly—a governor which governs and does not consume or deflect the engine power—brakes absolutely efficient which do not bind or drag—over fifty per cent of the lubrication automatically taken care of, the balance force feed alemnite gun system—

And These Unequaled Units in Perfect Balance

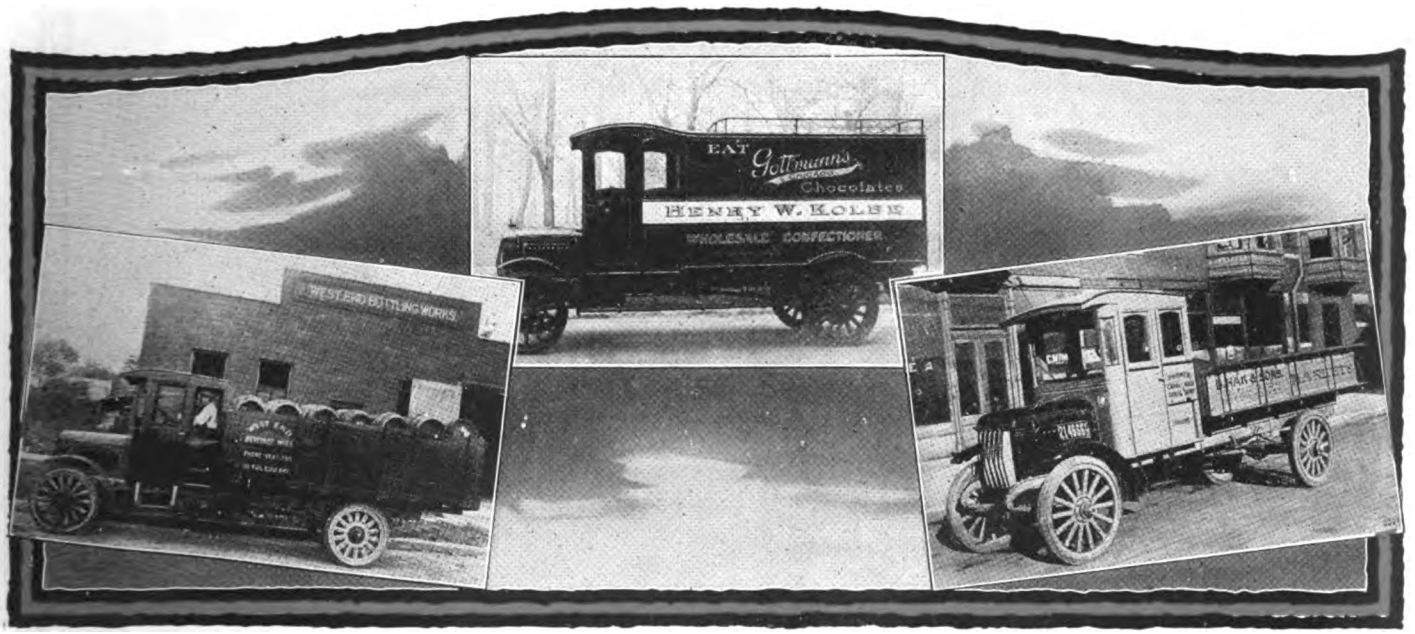
Extra Duty Continental Red Seal Truck Engine, Clark Internal Gear Rear Axle, Columbia Front Axles, Fuller & Sons Transmission, Eisemann Magneto, Stromberg Carburetor, Jacox Steering Gear, Arvac Joints and Drive Shafts, Detroit Steel Products Springs, Detroit Pressed Steel Frames, Goodyear Tires. Write for the whole story.

Transport Trucks will be exhibited at the New York Show, January 3-10, and at the Chicago Show, January 24-31

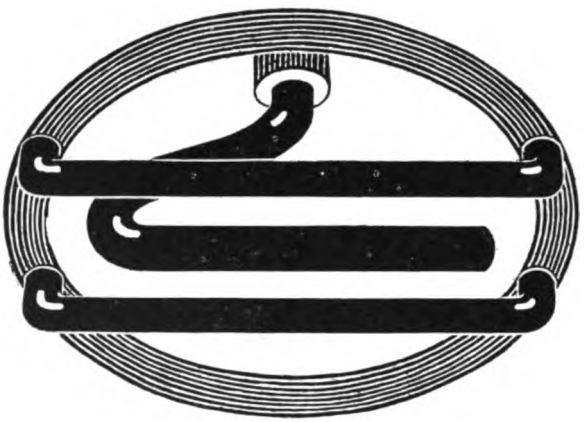
New York
Space N-1 Main Floor
8th Coast Artillery Armory Building
193rd St. and Jerome Ave.

Transport Truck Company
Mt. Pleasant, Mich.

Chicago
Space E-3 Main Floor
International Amphitheatre
43rd and Halsted Sts.



INTERNAL GEAR DRIVE TRUCKS



One inch firing surface—the Fyrac Feature which assures explosion of every gasoline atom and prevents *gasoline-formed* carbon—is a Fyrac advantage with which every motorist is familiar.

Intensive national advertising is reminding him daily.

That advertising, featuring the above drawing of the firing surface, shows how Fyrac Spark Plugs—with their one inch leaping flame—are the simple solution of a common problem.

Fyrac advertising will sell the plugs—through you.

Make your Fyrac stock match the Fyrac demand.

FYRAC MANUFACTURING CO., *Rockford, Ill.*
Export Department, Werner & Butts, 336 Whitehall Bldg., New York, U.S.A.
Canadian Department, Campbell Agencies, 350 McKinnon Bldg., Toronto, Can.

FYRAC

SPARK PLUGS

Durable

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DORT

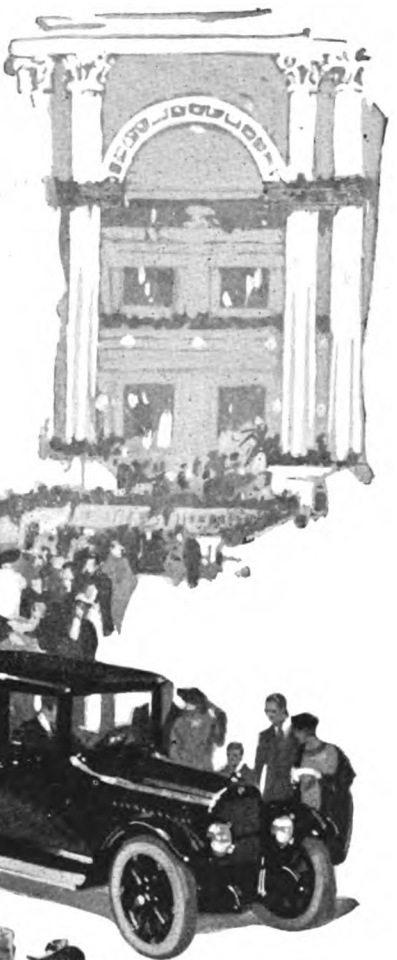
Quality Goes Clear Through

Here at the factory we receive numerous and frequent personal applications for territory from distributors of national prominence.

The situation is a striking testimonial to the high regard in which the Dort franchise is held throughout the industry.

At the same time it is a situation that does cause us a very sincere embarrassment.

Frankly, there is nothing less to our liking than to be in a position where we are forced to table indefinitely the applications of so many men who we know would worthily and capably represent this company.



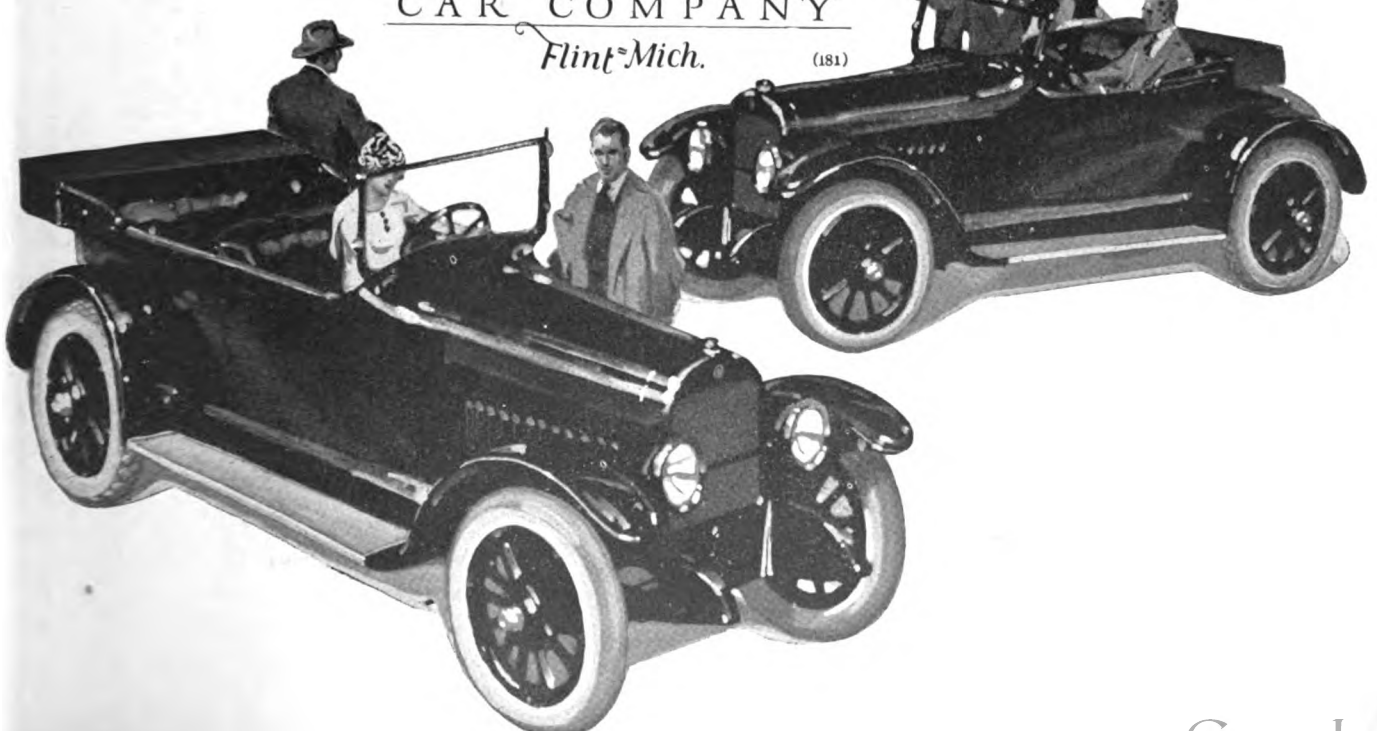
PRICES

Touring Car	$985	Fourseason Sedan	$1535
Roadster -	985	Fourseason Coupe	1535

F. O. B. Factory Wire wheels and spare tires extra

DORT MOTOR CAR COMPANY

Flint Mich. (181)



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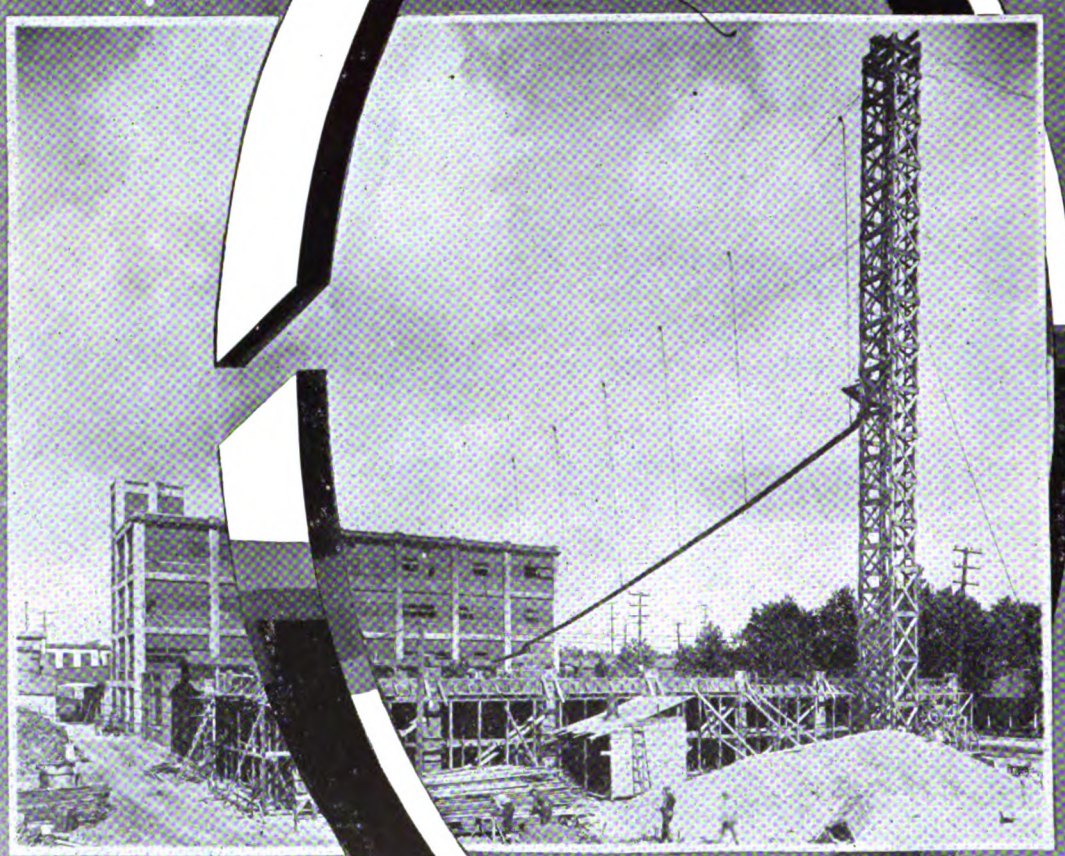
QUALITY SNAP RINGS

are Dependable for Power and Speed

An ever-increasing expansion means an ever-increasing Service



"MORE THAN A MILLION A MONTH"

THE Piston RING COMPANY

106 SANFORD ST. MUSKEGON, MICH.

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HAYNES HAS MADE CHARACTER THE TEST-WORD AMONG CARS

HAYNES cars are advertised and sold as "cars of character."

All vagueness of meaning was removed when we laid stress upon the fact that there are four essential elements of character in a car.

We showed and proved that the four factors of character are Beauty, Strength, Power, and Comfort.

We showed convincingly that no one factor can be slighted without injuring the sum of the four.

Every Haynes car illustrates and demonstrates our point —it embodies Beauty, Strength, Power and Comfort.

What this means to the public was demonstrated in 1919 —the record year in the life of America's first car.

The greatest asset the Haynes has is its reputation as a car of character. The greatest responsibility we have is that it shall always live up to its reputation.

The greatest value a dealer can ask in a car is known character.

We can talk business with a few responsible, reliable dealers—dealers of well-earned reputation—in some choice territories.

If you are in such a territory and you feel that you belong among the Haynes dealers, write or wire us for a personal interview.

In writing or wiring, Address Dept. 149

The Haynes Automobile Company, Kokomo, Ind., U.S.A.

The Haynes, AMERICA'S FIRST CAR, now exhibited by the government at the Smithsonian Institution, Washington, D. C., was invented, designed and built by Elwood Haynes, in 1893.

1893—THE HAYNES IS AMERICA'S FIRST CAR—1920

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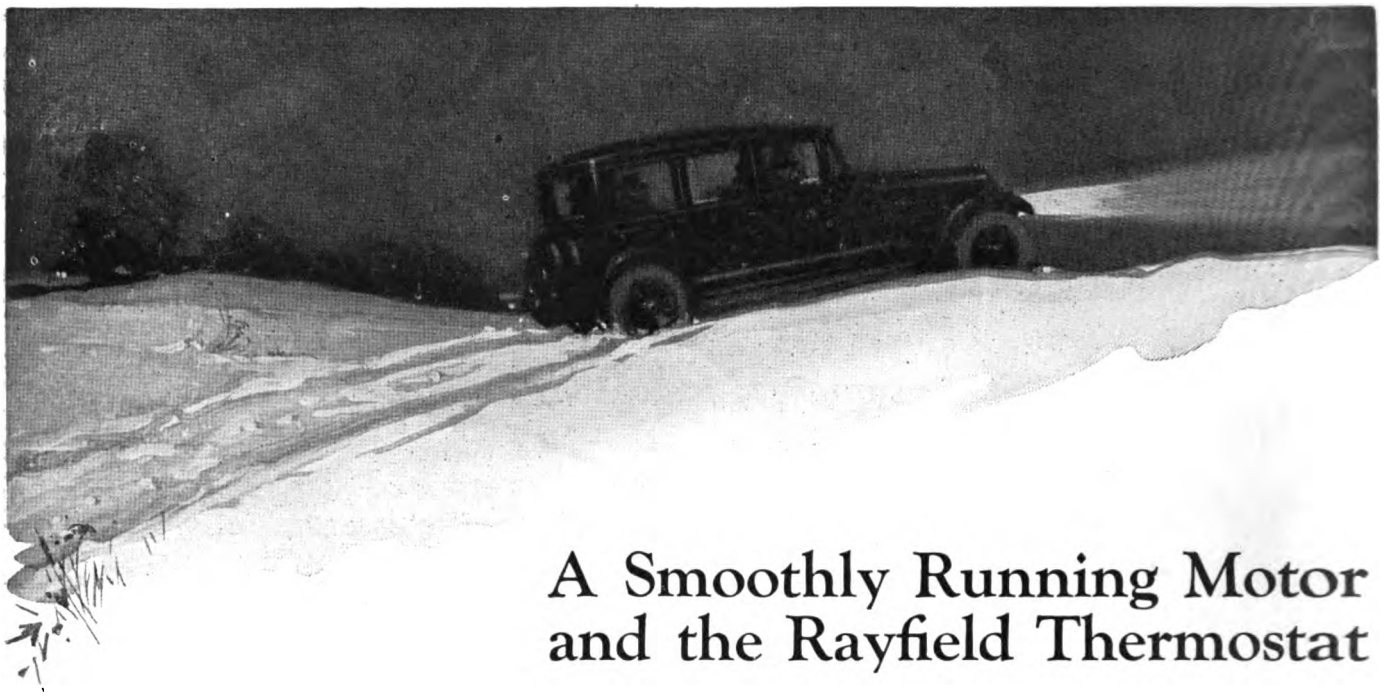
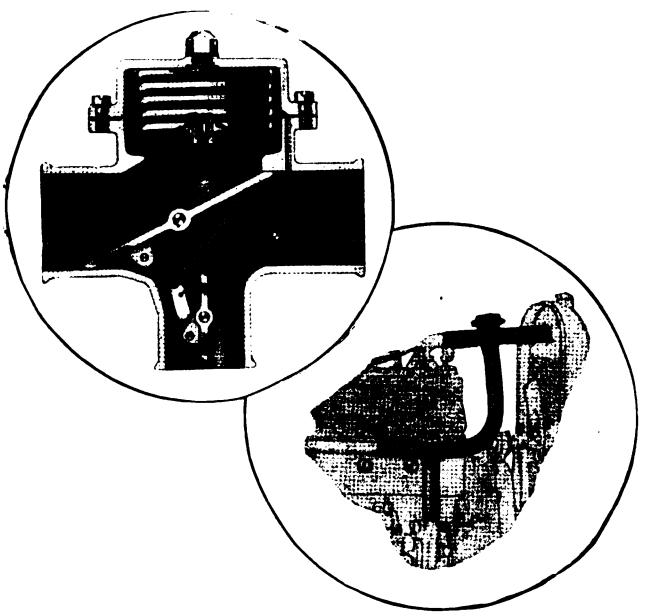


A Smoothly Running Motor and the Rayfield Thermostat



Your motor operates with greatest efficiency when the temperature of the water around the motor block is between 155° and 160°. It is then that your car runs smoothly up hill and down.

Regardless of how cold the weather, the Rayfield Motor Thermostat quickly heats the motor to the proper temperature—and keeps it there.

The valve mechanism in the thermostat is such that when a cold motor is started, circulation of the water is not permitted to pass around the motor block, but by-passes through the hose connection and the thermostat into the radiator.

In other words, circulation through the radiator is maintained at all times, but circulation in the motor block does not take place until the water reaches a temperature of 155°.

The Rayfield Thermostat does not clog. It can be installed quickly by any dealer on the top hose connection between motor block and radiator.

So great has been the demand that we have been able to reduce the price to $12.50. Inquire of your dealer. If he hasn't it in stock, write us.

BENEKE & KROPF MANUFACTURING CO.
21st and Rockwell Streets, Chicago, Illinois

(17a)

RAYFIELD MOTOR THERMOSTAT

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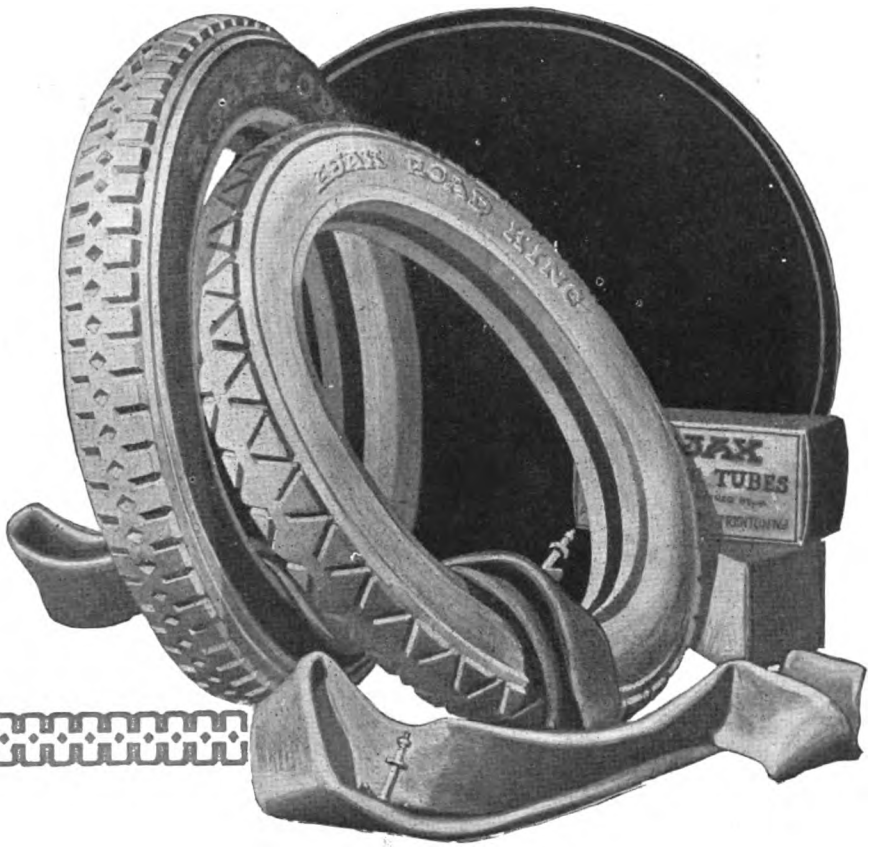

Opportunity for 1920

A Complete and Profitable Line

Ajax Rubber Company enters the new year under even more favorable auspices than ever before.

Production facilities have been multiplied. Present plants have been enlarged. An entire new plant is under way.

The technical efficiency of the organization has been re-inforced to maintain, and even improve, the high quality of Ajax Tires, Tubes and Accessories.

A most extensive advertising campaign is already under way.

Therefore the keen tire dealer will do well to acquaint himself with the increased money-making opportunity which Ajax Tires offer. The Ajax Dealers Sales and Service Franchise is more valuable than ever.

Write the home office or the nearest Ajax branch for complete information.

AJAX RUBBER COMPANY, INC.
New York City

Factories: Trenton, N. J. **Branches in Leading Cities**

AJAX TIRES

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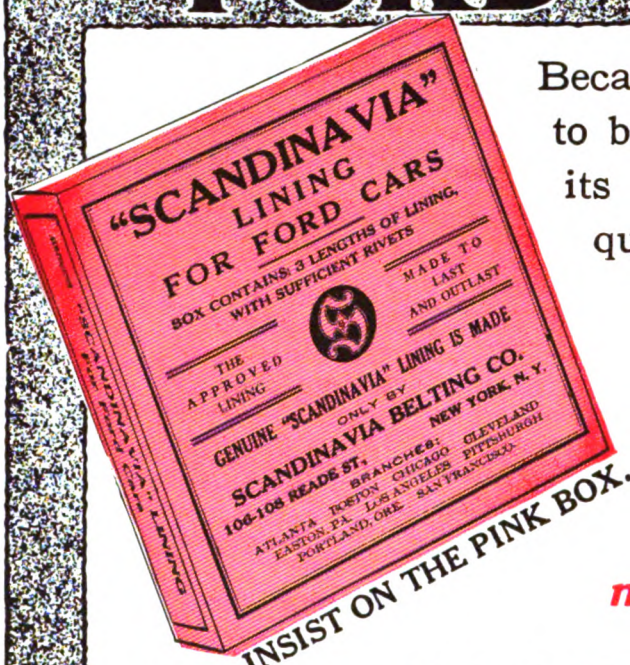
SCANDINAVIA

TRADE MARK REGISTERED IN U.S. PATENT OFFICE

BRAKE LINING for FORD CARS



INSIST ON THE PINK BOX.

Because it has proven itself to be all economy through its unusual long wearing qualities, and its satisfactory service during long usage—

Scandinavia has been the accepted lining for Fords for many years.

AS EFFICIENT AS AN AIR BRAKE—THE LINING DE LUXE FOR FORD CARS

Scandinavia is made especially for Ford use. The hot, oily condition of the Planetary Transmission cannot harm it.

It will not chatter or glaze.

It is wear proof.

It is made of the best long staple cotton interwoven into a compact fabric, especially impregnated, processed and hardened to resist heat, oil and grit.

ATTRACTIVE PROPOSITION TO JOBBER AND DEALER.

SCANDINAVIA BELTING CO., 106 READE STREET NEW YORK, N. Y

BRANCHES: Atlanta, Boston, Chicago, Cleveland, Easton, Pa., Pittsburgh, San Francisco, Los Angeles, Portland, Ore.

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Motor West

THE MOTORING AUTHORITY OF THE PACIFIC COAST

VOL. XXXII, No. 7 JANUARY 15, 1920 $2.00 PER YEAR

PROBLEM OF GLARE VEXES OREGONIANS

Visit of California Lawmaker Arouses Interest in Possibility of a New Headlight Law.

The recent visit in Oregon and Washington of Frank L. Eksward, chairman of the motor vehicle committee of the California legislature, in the interest of having uniform motor traffic laws adopted by all the Pacific Coast states, has stirred up anew in Portland the old question of an adequate state motor headlight law.

At present Oregon is alone among the Pacific Coast states in having virtually no automobile headlight law. There is a law, but about all it requires is that electric headlights have dimmers, or, barring that, the car must be equipped with a spotlight to be used instead of headlights when approaching another car. No special lenses, approved by the authorities, are required either by state law or by the Portland city ordinance, which is somewhat stricter than the state law.

The state law is brief and may be quoted in full:

"Motor vehicles when operated at night time, upon meeting an approaching motor vehicle, the driver shall dim his headlights; provided, however, that any motor vehicle which is not equipped with a dimming device, shall maintain as a part of the equipment a spotlight so adjusted as to be capable of being thrown to the right-hand side of the highway downward, and while approaching and passing such motor vehicle, the spotlight shall be substituted for the headlights, and so adjusted as not to blind the occupants of the approaching vehicle; and provided further, that any vehicle not equipped with electric lights, shall not be required to have a spotlight nor dimmer in approaching or passing."

Even this mild law is virtually unenforced. The city of Portland requires that motor car headlights be shaded or dimmed to prevent glare, that there must be sufficient light to reveal an object 100 feet ahead, and that at 50 feet the beam of light shall not rise higher than 42 inches above a level street surface.

Eksward addressed several audiences in Portland and Salem, Ore., on the desirability of uniform motor traffic laws, particularly with regard to headlights, in the Pacific Coast states.

RECOGNITION OF THE MOTOR VEHICLE.

Obstacles should not be thrown in the way of the economic revolution which California is undergoing in the field of transportation, is the advice given by the California State Railroad Commission in its annual report to Governor William D. Stephens.

The Railroad Commission's report deals with the passenger automobile and the freight-carrying motor truck as competitors of the steam and electric lines.

"If the motor vehicle can give better and more efficient service at a lower cost than other forms of transportation, then it would be unwise and, indeed, in the long run, ineffective, to interfere with such a development."

Stetson is C. S. A. A. Head.

John W. Stetson, state senator of California, has been elected president of the California State Automobile Association at a recent meeting in San Francisco. His predecessor, during 1919, was H. R. Basford, of San Francisco. George S. Forderer is first vice-president; W. S. Clayton, second vice-president; Edwin F. Merry, re-elected treasurer; and D. E. Watkins, re-elected secretary-manager.

Fewer California Thefts, Outlook.

One reason why fewer automobile thefts are expected to occur in California in 1920, and why camouflaging of number plates to evade paying license fees will be difficult, is that entirely new plates will be issued, and that they will not bear any emblem—just the numbers, in white on black background.

OAKLAND SHOW TO OPEN JANUARY 19

Attracting Interest of Automobile Men From Every Section of the West—Fine Decorations.

The Oakland Automobile Show, to be held in Oakland, Cal., Municipal Auditorium, January 19-25, is attracting the interest of automobile men all over the West, as attested by a letter which Robert W. Martland, show manager, received recently.

The letter is from Harrison Goldsmith, secretary of the Rocky Mountain Auto Trade Association, which represents the automobile interests in Colorado, Wyoming and New Mexico. He states that, accompanied by J. C. Norton, president of the Denver Association, he will make a special trip to Oakland to "observe how well the California boys live up to their reputation of being the livest wires in the United States."

The task of decorating the interior of the Auditorium is rapidly nearing completion under the supervision of Charles Francis Rosa, famous mural decorator, under a contract calling for close to $10,000.

The grand opening is not to take place until Monday evening, when in a blaze of incandescent splendor, the beautiful new post-war creations will be disclosed to the public. The show will continue throughout the week until Sunday night, January 25, and attendance promises to exceed all previous records.

Kearns Goes to Portland Firm.

Lee J. Kearns, one of the best-known automobile sales executives in the Seattle field, has become retail sales manager of the D. C. Warren Motor Car Co., of Portland, Ore. Several weeks ago Kearns resigned as sales manager of the Willys-Overland branch in Seattle. His new connection distributes Velie, Allen and Peerless cars in a wide territory.

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TRADE NEWS FROM SEATTLE FIELD

Many New Models Arriving—Dealers Report a Large Out-of-Town Demand—Deliveries Improve.

Among new models arriving in the Seattle field for the winter season are the Hupmobile sedan, Geronimo Six, Chandler coupe, Davis Six sport car, Elgin line and Haynes limousine.

Several dealers report a continuation of the out-of-town demand, notable among them the Summit Motor Car Co., handling the Saxon. The new dealer in Everett took five cars immediately and contracted for 45 more to sell in Snohomish county; the Bellingham dealer contracted for 75 cars; the Duvall dealer, 25 cars.

From the harbor town of Hoquiam came Louis J. Mason recently to Seattle and took away five Oldsmobile cars; he has sold 55 cars of this make since March, 1919.

The first new Standard Eight models have arrived in the Pacific Northwest for the Model Motors Co., making their appearance with California dealers at the same time.

C. P. Iles recently announced the arrival of four carloads of Elgin Sixes.

On National Sextet cars, Shields-Livengood expect to receive about 30 during January out of the factory's production schedule of 800 cars.

According to the Dragon Motor Car Co., deliveries of the Seattle-designed Ace car, built in Michigan, will be made this month and each month during the year.

The Chandler dealers warn of probable car scarcity in the spring and strongly advise the immediate placing of orders.

Firm belief in the record-breaking activities predicted for 1920 is strikingly shown in the case of the Mitchell Motor & Service Co., handling Mitchell, Jordan, Grant and Briscoe cars and Traffic and Fageol trucks. Jack Osmond, manager, has placed orders for 2,250 cars and 200 trucks, to be sold during 1920.

Reasonably early deliveries are reported as possible on Maxwell, Davis Six, Geronimo Six, Saxon, Overland Four, Oakland, Metz Six, Apperson and Elgin cars, and Speedwagon, Chevrolet, Paige, Huffman and Commerce trucks.

The Shields-Livengood Motor Co. holds the largest distributing territory for the Traffic truck, and at the recent great factory convention at St. Louis, Mo., contracted for 300 trucks for 1920 delivery.

The firm name of the Burgess-Mitchell Motor Co. has been changed to the Mitchell Motor Truck Co., Harry Mitchell buying the interest of E. L. Burgess. Paige trucks can now be had in 3½-ton models, Mitchell reports, and in February he expects to have on hand a shipment of 1½-ton Paige models.

Mallory Heads Moreland Sales.

P. H. Mallory has been appointed general sales manager of the Moreland Motor Truck Co., of Los Angeles, Cal. He has been assistant sales manager with the Moreland for the past four years.

Linerd, of Globe, on Coast.

J. B. Linerd, president of the Globe Tire Co., of New York City, arrived recently on the Pacific Coast in the course of a tour of the country, during which he will visit every important Globe tire distributor. Under his guidance the Globe Tire Co. showed at the close of its fiscal year, Nov. 30, an increase of 50 per cent in volume of business and 30 per cent increase in number of dealers over the previous twelve months. He will spend a few weeks on the Coast.

J. B. LINERD,
President Globe Tire Co., of New York, Now on the Coast.

Beggs Six in Southland.

The Beggs Six car has entered the Southern California and Arizona territory with the taking of the distributing agency by Frederick A. Wickersham, automobile dealer of Los Angeles. The car is manufactured in Kansas City, Mo., has a six-cylinder Continental engine and a wheelbase of 120 inches.

Parts for 100 Lines of Cars.

Founded five months ago, the volume of business handled by the new Automotive Parts Service Co., of 3322 Broadway, Oakland, Cal., has doubled every month since then. Its business is a new development in the automotive field on the Coast, being that of supplying new repair parts for all makes of automobiles.

Parts for more than one hundred different cars and models are carried in stock, according to W. D. Patterson, manager. Among the parts on hand are piston assemblies, including standard and over-size pistons, rings, bushings and pins; bearings, axles, springs, valves and cages, straight and spiral bevel master and pinion gears, cylinder gaskets, etc.

Figures on Lincoln Highway Travel.

Estimates on transcontinental travel are still more or less guesswork. However, all available information indicates that during the transcontinental touring season of 1919 between 5,000 and 10,000 automobiles made trips of at least 1,500 miles over the Lincoln Highway.

Hamilton Orr is Lincoln Highway consul at Orr's Ranch, 87 miles west of Salt Lake City and near the edge of what is still called the Great American Desert. During May 230 cars passed his ranch; 380 in June; 565 in July; and 911 in August. The vast majority of this travel originated from points east of Utah or west of Nevada and was headed either for the Pacific or the Atlantic Coast.

Insurance Policies as Presents.

Christmas gifts of generous proportions were distributed by the Peacock Motor Sales Co., Chandler dealer in San Francisco and Oakland. All employes were presented with paid-up insurance policies ranging from $500 to $3,000. Those with the company three months and less than one year received a policy of $500; less than two years, $1,000; less than three, $1,500; less than four, $2,000; less than five, $2,500; and five years or more, $3,000.

Coast Exide Branch Leads All.

The Pacific Coast factory branch of the Exide Battery Depots, Inc., located in San Francisco, has again taken first honors as handling the greatest amount of business of any of the branches during the year. The Coast branch held the same record for the year 1918.

Mason Tire in Northern California.

The Northern California distributing agency for Mason tires has been secured by the Auto Tire Accessories Co., of 439 Golden Gate Ave., San Francisco.

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Montana Expects 70,000 Cars.

In the state of Montana 59,305 cars were registered during the year 1919, according to information furnished to "Motor West" by Secretary of State Charles T. Stewart. This represents an increase of more than 16 per cent over the 1918 total of 51,037. There are now between 1,200 and 1,500 trucks operating in Montana, the secretary of state estimates. It is anticipated that about 70,000 cars will be registered during 1920.

A total of 8,268 motor vehicles were registered last year. Counting motorcycle licenses and those issued to 1,700 chauffeurs, the gross state revenue from motor vehicle sources amounted to more than $406,000.

The Montana license plate this year is black and white, that is, white numerals on a black background.

Police Find Cache of Tires.

Chico, Marysville, Red Bluff and other cities in Northern California are believed to have unwillingly contributed to a cache of tires found by the police in a tire dealer's shop in Sacramento. The dealer, another Sacramento man and one of Chico were arrested. The dealer is said to have confessed that the others stole tires and he sold them. The thefts are believed to be well organized and to have amounted to many thousands of dollars. The value of the cache was about $1,500.

First Case Under New U. S. Law.

Los Angeles' first arrests have been made under the new Federal law giving United States courts jurisdiction in cases where an automobile is stolen in one state and driven into another. Agents of the Department of Justice lodged a man from Denver in jail, and his girl "passenger" from the same city with the juvenile authorities. The man is alleged to have rented a machine for a day, paying $20; then changing the number; then driving to Albuquerque and selling the machine for $150.

Northwest Motorists Flee Chill.

An unusual degree of winter cold, in addition to the ordinary rainy weather, is probably the first reason for a large representation of Pacific Northwestern motorists in California now. The Automobile Club of Western Washington reports that it has been busy dispatching automobiles to San Francisco and Los Angeles during the past few weeks.

The Automobile Club, through its shipping department, saves its members the trouble and worry incidental to railroad shipment of automobiles over long distances. The machines are shipped in car lots. In this way considerable saving in freight rates is made.

While most of the cars are being shipped south, many are reported as coming into Washington. A few are being sent East for extended winter tours.

The Automobile Club of Western Washington, at a recent date, had shipped nearly twenty California-owned cars to Seattle this winter.

Weaver Takes Day-Elder Truck.

The Chester N. Weaver Co., of San Francisco, widely known as Northern California dealer for the Studebaker, has entered the motor truck selling field with the taking of the agency for Day-Elder trucks in a large territory.

The Day-Elder is built in Newark, New Jersey, in six models, ranging in carrying capacity from one to five tons. Four models are equipped with the Continental engines; two with Buda engines.

Weaver's sales territory for the Day-Elder truck includes California, Nevada and the Hawaiian Islands. Hart L. Weaver is head of the company's new truck department.

Fageol Dealers Meet.

The Fageol Motors Co. recently held its second annual dealers' convention at its Oakland, Cal., plant. More than sixty distributors and dealers of the Fageol truck from all parts of the Coast were present, a 100 per cent attendance.

The company has lately announced the Fageol seven-speed compound transmission installed in its trucks, adding 36 per cent more truck speed and 91 per cent more pulling power, without added engine power.

American Six in Southwest.

When E. J. Carpenter and J. N. Carpenter sought distributing rights on the American Six in California, Nevada and Arizona they found that ten other Los Angeles automobile men had the same idea, and three others desired it for Nevada and Arizona. The Carpenter Motor Car Co., of Los Angeles, Cal., however, now has the American Six agency in the Southwest. Both men were for seven years Ford dealers in Seattle.

Michelin Centralizes on Coast.

The Michelin Tire Co. of California will establish a general headquarters in San Francisco for the whole territory west of the Rocky Mountains. All details of Michelin business and distribution will be handled from San Francisco, according to J. M. Cummings, Pacific Coast manager. Ground has been bought in San Francisco on Twelfth St., near Mission, whereon a large warehouse will be erected.

SPOKANE DEALERS MADE MONEY IN 1919

Sales Total Well Above the $10,000,000 Mark for the Year—5363 Fords in Spokane Co. Alone.

Reports from fourteen Spokane automobile dealers indicate that 5,068 new cars of seventeen different makes, valued at $6,658,450, are included in the passenger car purchases of Spokane, Wash., and the Inland Empire territory since January 1, 1919. No estimates have been received from sales agencies of some of the most popular cars and it is estimated that an exact report would place the Spokane sales totals above the $10,000,000 mark.

Two Ford dealers report sales aggregating 780 cars at approximately $620 each, totaling $471,200. It is probable that a canvass of all Ford dealers would place the total for the city well above 1,000.

The Buick cars, of which 815 were sold at an average price of $1,850, brought $1,137,750 to the distributors.

Haynes dealers have contracted for $1,000,000 worth of cars until June, 1920, and in three months have made sales amounting to $50,000.

Chandler agences reported the sale of 300 cars at an average price of $2,200, and Chevrolet dealers placed 700 cars for $819,000.

Two salesmen of the John Doran Co. are credited with disposing of 22 Packard trucks, valued at $151,000 in a recent five weeks' period. O. J. Grendall has placed 94 Cleveland and Chandler cars in the Inland Empire on a flying trip through the territory.

Motor licenses for 1919 in Spokane county brought in a revenue of $275,000.

One hundred and twenty-seven different makes of passenger automobiles are carrying licenses in Spokane county, Washington, according to figures from the records of the county auditor. Fords are easily the leader in number, with 5,363 machines.

Firestone-Southern California.

A financial writer hints at probable resumption of site-seeking in Southern California by the Firestone Tire & Rubber Co. Preceding it, he says, comes arrangement for establishing a Canadian factory with a daily capacity of 3500 tires.

The company is said to be able to meet only a small part of the foreign demand for its product. Net sales for 1919 are stated as $91,078,513; net profits, before Federal taxes, $9,396,978, an increase of approximately $12,000,000 in sales and $3,000,000 in profits over 1918.

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GETTING READY FOR S. F.'S ANNUAL SHOW

Manager Wahlgreen Expects Next Month's Exhibition to Outclass Even Those of Former Years.

San Franciscans who own automobiles and those who have yet to enter the motorists' paradise will play host to the motor car enthusiasts from all over the West at the Fourth Annual Pacific Automobile Show, to be staged in San Francisco at the Exposition Auditorium, during the week beginning February 21, on a scale never before attempted in similar events.

The greatest number of exhibitors, the largest array of automobiles, tractors, trailers and trucks, and a production of a magnitude never before seen in the history of the city are the proud boasts of G. A. Wahlgreen, the show manager. Aided by members of the Motor Car Dealers' Association, under whose auspices the motor car exposition will be held, Manager Wahlgreen is crowding the program with novel entertainment stunts and amusement features.

Being one of the three national expositions of the automobile industry, the show this year promises to dwarf all previous "get-together's" of motor car enthusiasts in the West. Assurance has been received by Wahlgreen from the large Eastern manufacturers that the feature exhibits at the New York and Chicago shows will be shipped to San Francisco intact.

Some idea of the magnitude of this year's show is furnished by the report of Manager Wahlgreen that 54 separate and distinct lines of automobiles and 55 different lines of trucks, trailers and tractors are to be included in the great auditorium. Forty-four individual dealers and distributors of passenger cars and 42 exhibitors of trucks and tractors have reserved display space already. In addition, 60 exhibitors of accessories and every modern appliance for the automobile will have booths at the show.

There will be 60,000 square feet of floor space devoted to the display of automobiles alone. Another 33,000 square feet is to be given over to the truck and trailer department and the accessory division will claim an additional 15,000 square feet.

From far and near have come offers of co-operation from motor car dealers, distributors and fans, who are anxious to boost the annual meeting of motorists in the West. Hundreds of big delegations, including thousands of visitors, are to come to San Francisco from cities throughout California, and many others are expected from other States.

Because of the post-war revival of the motor car industry, extraordinary interest is attached to this year's show in San Francisco. Many surprises are said to be contained in the feature exhibits to be sent here at the conclusion of the Chicago automobile show, January 18.

The entire main floor for passenger cars was readily sold. Three times the space could have been sold had it been available, according to Manager Wahlgreen. The main floor gives 52,000 square feet to passenger cars, while in the basement there are 30,000 square feet for motor truck exhibits, all of it already sold. Accessories will be on the second floor.

In connection with the trucks there will be more or less of an educational campaign, consisting of lectures and talks on motor trucks for both farmers and city users. Moving pictures will be the active supplement to the ordinary still-life exhibits making up the truck department.

The extent of the interest in advance being lavished on the coming show is evidenced by the fact that leading hotel men in San Francisco are already advising out-of-town representatives to have all reservations made early in order to insure accommodations during show week.

Represents F-W-D in Northwest.

Harry H. Brown, former assistant to L. J. Ollier, vice-president of Studebaker, has been made district sales manager for the Four-Wheel-Drive Motor Truck Co., of Clintonville, Wis. His territory is Washington and Oregon.

Sell Groceries and Tires.

Marking an innovation in tire distributing connections, the Ralph Grocery Co., of Los Angeles, has been appointed Southern California distributing agency for Stronghold and Barberton tires, manufactured by the Rubber Products Co., of Barberton, O.

Heads Chevrolet in Los Angeles.

James E. Appleby, former Chevrolet factory representative, has been made manager of the Los Angeles branch of the Chevrolet Motor Co. of California. He succeeds James V. Hough, who resigned recently.

Motor Tourists Still Arriving.

When winter comes, touring practically stops in the Middle West and East. It is therefore rather astonishing, to anyone who formerly lived in the East, to note by newspapers the arrival on the Coast, by automobile, of venturesome mortals who left Snowland after good traveling had ceased and who had encountered severe climatic difficulties on the way. In almost every instance these tourists de rigueur are quoted as saying that the result, the successful arrival in so livable a climate, is worth the trials necessary to attain it. There have been numerous instances of this kind this winter. To mention them individually would eat up more space than is available.

Advertising for a Good Salesman.

The demand for automobiles no doubt is, as claimed, exceeding the supply for early delivery. Nevertheless, good salesmen are not relegated to the shelf. A recent advertisement in a San Francisco newspaper offered $6000 for a "salesman who can point with pride to his record as a producer."

Polsey, Goodyear Housing Manager.

J. C. Polsey has been appointed housing construction manager for the Goodyear Tire & Rubber Co. of California, and has established an office at Wingfoot, formerly Ascot Park, in Los Angeles. He will purchase all materials and supervise the work. Hunt & Burns, Los Angeles, are preparing the house plans. The buildings will accupy 10 acres adjoining Goodyear Gardens, for which plans were prepared by Paul Thiene, landscape architect.

The housing project calls for approximately $3,000,000. The first construction will be of a store and apartment building, two stores, 126x126 feet; a two-story store and rooming house, also 126x126; and 60 bungalows. The store buildings, brick, will cost $75,000; the bungalows, frame, from $2500 to $3000 each and in eight different styles.

W. P. Herbert Takes Chandler.

The Chandler Six car in Southern California will be hereafter handled by the W. P. Herbert Co., of Los Angeles, which was organized last July to distribute the new Cleveland Six car in the same territory. W. P. Herbert has been for many years a leading figure in the Eastern automobile field and is a member of the firm of Herbert Brothers, distributors of the Chandler in Philadelphia. The Los Angeles firm will occupy a new building containing 100,000 square feet in April, 1920.

Authorities After Sign Shooters.

The Board of Supervisors of Lassen County, Cal., is offering a reward of $100 for evidence that will lead to the arrest and conviction of any person shooting at the signs of the California State Automobile Association in that county.

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HIGHER PRICES FOR OREGON GASOLINE

Oil Companies Say Increase is Due to Special Refining Processes Necessary to Meet New Law.

A law passed by the last Oregon legislature, requiring that all gasoline sold in the state must test 56 specific gravity, Baume, is now costing Oregon motorists 1½ cents per gallon more for their gasoline than motorists of Washington and California must pay. The excess charge is really 2½ cents per gallon, when the one cent per gallon state tax for highway construction is included.

The Standard Oil and Union Oil companies, on the ground that such an increase is necessary to meet additional costs of special refining processes to produce gasoline that will meet the Oregon requirements, shipped in special tanks and stored at distributing points in separate tanks, have recently increased the price of gasoline in Oregon 1½ cents per gallon. They intimate, moreover, that a further increase is not unlikely.

The Shell and Associated Oil companies are expected soon to follow suit. The oil companies declare that even the 1½ cents additional charge does not fully cover the extra cost of producing and distributing the special-test gasoline for Oregon. They declare that the Oregon process is wasteful because under it not nearly so much gasoline can be cracked up from crude oil.

Washington, California and other Pacific Coast states have dropped the old specific-gravity test, which the oil companies assert is meaningless so far as power value is concerned, and base their tests on the United States government specifications, based on boiling points. Gasoline sold in California and Washington is about 54 specific gravity.

Even this increase in price isn't the full prospect that faces Oregon motorists. As there is no market elsewhere for the special-test gasoline required by the Oregon statute, according to the companies, they make only enough of this specially refined product to supply the immediate needs of the state. One result is that any delay in shipments causes a gasoline shortage in Oregon.

Last fall the shortage became so acute that the only gasoline left in Portland was the stock actually in the service station tanks and many towns in the interior were left entirely without motor fuel. At that time Governor Olcott suspended the gasoline law for 15 days to permit the companies to bring in gasoline of lower specific gravity from Washington to tide over the emergency. But the companies declare such a situation may occur again at any time in the future, despite the increased price.

Governor Olcott recently called a special session of the legislature for January. The gasoline law is certain to be one of the matters brought before it.

At present motorists in Portland pay 25 cents per gallon for gasoline, which includes the one-cent state tax per gallon. Just across the Columbia river in Vancouver, Wash., only nine miles away, gasoline costs only 22½ cents. The Washington gasoline appears to give motorists who use it just as much satisfaction as the higher priced special-process Oregon motor fuel.

One-Year Record of Brown & Butler.

Brown & Butler—"Home of Better Cars"—that is the name and slogan of a Los Angeles firm which, in one year, has progressed from an idea to a flourishing institution backed by plentiful capital, employing more than 75 skilled workmen and occupying four large buildings. They make over slightly used automobiles. Every worn part, including nuts, is replaced. Each department re-designs and improves, and the machine emerges with a distinctive appearance and, it is claimed, actually better than when it came from the factory.

Recently the firm used a full-page newspaper advertisement to tell its story, with pictures of buildings, departments, an example of its handiwork and its members and all employes, including the stenographer with a Mona Lisa smile.

Heads Goodrich in S. F.

W. T. Powell has been appointed San Francisco district manager for the B. F. Goodrich Rubber Co. He succeeds F. Richard Carroll, whom for the past nine months he has been representing in San Francisco during Carroll's absence in the Orient on an important mission for Goodrich interests.

Carroll will now be permanently located in Japan as special representative for the Goodrich concern in the Far East.

Standard Eight in Washington.

The Standard Eight car is a new arrival in the Seattle field, where R. S. Wilson, heading the newly formed Model Motors Co., has taken the distributing agency for the state of Washington. Wilson, secretary and manager, is a comparative newcomer to Seattle.

N. A. D. A. Field Man Visits L. A.

Robert E. Magner, field secretary of the National Automobile Dealers' Association, recently visited Los Angeles. He is in the field all the time, getting members and informing those who are members. He told "Motor West" of various reasons given by dealers for not joining, some saying they would prefer an organiation including accessory men and others; others deeming the A.A.A. sufficient; and so on. In the main, he said, dealers recognize the worth of an organization of their own, especially when told of its influence in state and national legislative matters.

Automobile Plant in Spokane.

An automobile factory is to be established in Spokane by the Hill Mfg. Co., incorporated recently with capital of $100,000, to manufacture automobiles, accessories, and logging supplies.

The first car is to appear in sixty days, according to plans. The company has taken over the assets of the Clarkson Mfg. Co., E2204 Mallon Ave.

In construction, the car will not differ greatly from the modern type, but specifications include a weight of 2,100 pounds and a 16-valve racing type motor, priced about $1,200. The engine of the car above the crankcase will be built in Spokane, as will many other parts.

Black & Decker Branch in Northwest.

Demand in the Pacific Northwest for the products of the Black & Decker Mfg. Co., of Baltimore, Md., will be handled by a branch recently opened in the Maynard Bldg., Seattle. A. E. Nordwall is Seattle manager, working under direction of the main Pacific Coast branch at San Francisco.

Wolf Heads Willard in West.

N. G. Wolf has been appointed Western division manager for the Willard Storage Battery Co., of Cleveland, Ohio. He succeeds R. C. Bridge, resigned. Wolf's territory takes in California, Oregon, Washington, Idaho, Utah, Nevada and Arizona, with San Francisco as headquarters.

Rauen on Extended Eastern Trip.

J. B. Rauen, secretary and treasurer of the United States Spring Co., Los Angeles, is on a vacation trip of several weeks in the East—a vacation during which, however, he will cover the national shows.

Take Mitchell for Large Field.

The Mitchell Six car as been taken by the W. K. Lovering Motor Co., of Salt Lake City, Utah. They control Mitchell sales in Utah, Wyoming, Idaho and Nevada.

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CAL. FARMERS HAVE PLENTY OF MONEY

Now in the Front Rank as "Prospects" for Automobile Salesmen — Sold Crops for $800,000,000.

Dean Hunt, of the College of Agriculture, University of California, remarks in academic phrases that the farmers of the state have no kick coming; that in 1919 the income of the average soil tiller was parallel to that of city men receiving $2000 to $2600 per year, and that the farmer's condition is, on the whole, considerably better than before the war. His figures are believed to be conservative. For many decades the average farmer everywhere, except in that state of rural plutocracy, Iowa, struggled behind the main procession in attaining the good things of life, and perhaps worked hardest for what he did get. Now he is in the front line of average purchasers of 1920 models.

Dean Hunt estimates California farmers will receive for their 1919 products between $600,000,000 and $800,000,000, roughly divided into $250,000,000 for field crops, the same for fruits, and $200,000,000 for live stock and animal products. The total is three times as much as the sum of 1914. There are approximately 100,000 farmers in the state, and the gross income of each will average, for 1919, about $6000, one-half of which goes for current expenses, including labor except the farmer's own. The average investment per farm at this time, Hunt estimates at $30,000.

Hoskins Front Drive in L. A.

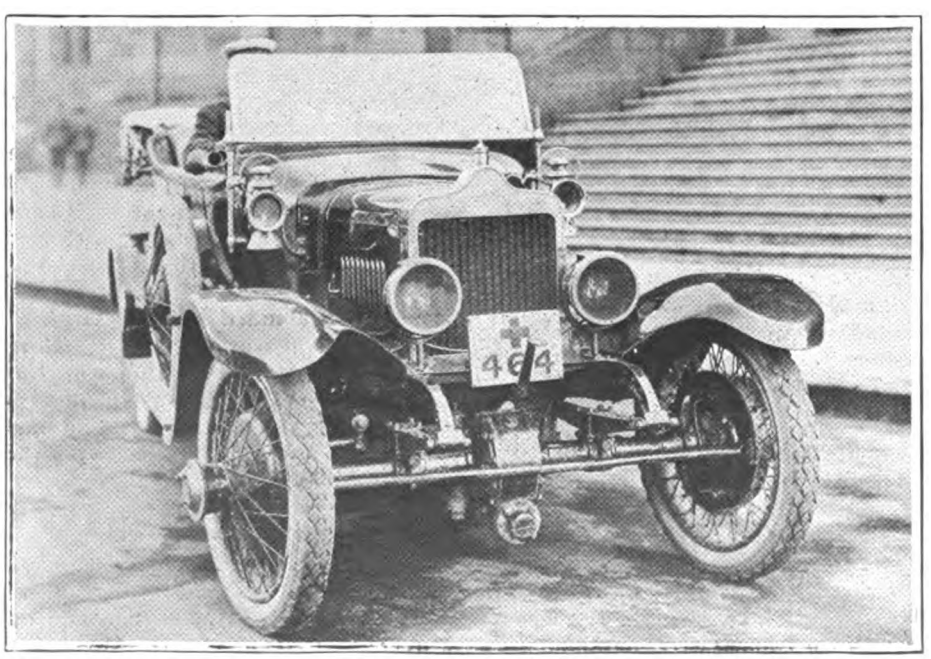
G. J. Hoskins, of Sydney, Australia, inventor of the Hoskins radio-spherical gear adapted to front-drive for automobiles, arrived in Los Angeles last month, having driven down from San Francisco in his old four-cylinder Standard, built in Coventry, England, in 1911. The car is equipped with the Hoskins gear, and the inventor explained that his choice of a car in which to try out his device was on the theory that a heavy car with a small engine—it develops but 14.9 horsepower—and the consequent necessity for changing gears constantly, would furnish the best possible test for the gear. This test, Mr. Hoskins states, has been in progress for two years, the car having covered over 20,000 miles. The change from the ordinary rear-drive to his front-drive, he stated, had added at least 20 per cent to the speed of the old car.

This latter statement can be verified by the "Motor West" representative, who occupied a seat in the ancient Standard during an hour's test. At times the indicator reached the 45-mile mark, and the car seemed to have a reserve of speed which the driver, in deference to the law, seemed loth to call upon. At high speed the car showed remarkable steadiness, the absence of vibration in the steering wheel being specially noteworthy. The self-centering feature of the steering wheel, the inventor explained, was due to the fact that the drive was in the exact center of the front wheels.

The "Motor West" man noticed that in turning corners no slowing down was necessary if the corner was clear, and in a few slippery spots turns were made and brakes applied without the slightest tendency to skid being apparent.

Mr. Hoskins has secured a window at 916 South Main street, Los Angeles, where the drive is on exhibition. It will also be exhibited at the Los Angeles and San Francisco Automobile shows.

The inventor of this remarkable device makes a statement on another page of this issue of "Motor West," giving a description of this new discovery in driving mechanism.



OLD FOUR-CYLINDER STANDARD EQUIPPED WITH HOSKINS AUSTRALIAN FRONT DRIVE.

Snow Blots Out Sierra Roads.

Direct highway connection over the Sierras between San Francisco and the East has been closed since the big storm of the first week of December last year laid from five to twelve feet of snow in the passes. Still more snow has fallen since then, making it fifteen feet deep on the roads over the Sierran summits.

Long-distance automobile travel over the Lincoln Highway has necessarily stopped until next May. Transcontinental travelers are now shipping their cars by train.

All mountain roads are snow-bound also in Utah and Montana. In the desert country of Nevada travel by automobile is fairly easy, the snowfall not being more than two feet deep and quickly draining off.

Rose Tournament Object Lesson.

Of the annual Rose Tournament, held at Pasadena, Cal., January 1, a Los Angeles newspaper said: "It was a deluge of satisfaction. . . . Over the boulevards, like mighty, black, wriggling serpents, thousands of automobiles wended their way. . ."

An apt description. The poor man's electric limousine, the trolley car, also was loaded early and late—many trainloads went and returned that way—but the sight of a never-ending, thick-and-thin, fast-and-slow, bunching-and-separating caravan of automobiles, reentering Los Angeles after the parade in the Crown City, was one to stare at. Millions of dollars in value rolled by within an hour or two—home to the New Year's dinner.

Interesting, After Eighteen Years.

Recently Al G. Faulkner, California distributor for the Marmon, and Earl P. Cooper, former race driver and now Curtiss plane distributor for Northern California, took a fly together from Los Angeles to San Francisco, about 350 miles by airplane, between breakfast and luncheon, in four hours. In 1901 the two did the 456 miles by road, in four days, in an automobile with two horizontal cylinders, fired by six dry batteries. That feat was called remarkable.

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MANY NEW MODELS IN SAN FRANCISCO

Approach of Annual Show Brings Much Improvement in Deliveries—Many Eastern Visitors Coming.

Practically all the trend of effort among automotive men in San Francisco is directed now toward the staging of the Fourth Annual Pacific Automobile Show, to be held in the Civic Auditorium, February 21-28. The San Francisco event has come to be looked upon as a third national show, although still lacking official recognition as such by the National Automobile Chamber of Commerce.

The San Francisco show will be a resounding echo of the great Eastern events. The records set by last year's show will be broken without difficulty.

The importance of the San Francisco show is realized in the East as practically representing the opening of the new year for the automotive industry on the Pacific Coast. The result is the appearance of numerous new models in the San Francisco field, particularly of closed car type. Among these are the Oakland four-door sedan, Standard Eight sedan, Franklin sedan, Chandler coupe, Cadillac town car, Mitchell coupe, Studebaker sedan, Kissel four-passenger coupe, Dorris sedan and Overland Four sedan. Among open-car types are the Biddle Ormonde speedway model, Haynes four-door roadster, Essex roadster, Grant Six roadster, and the Commonwealth and Elgin lines.

A recent shipment to the Coast has broken the famine on Essex roadsters which has existed for some time, reports the H. O. Harrison Co.

The Charles H. Kaar Co. expects a large shipment of Lexington cars to reach San Francisco shortly.

Good-sized shipments are beginning to reach L. J. Borie, Templar dealer, the Cleveland factory now operating under enlarged production schedule.

The allotment on Paige cars is limited, states H. A. Seller, and he advises immediate placing of orders, which are accepted on a strict priority basis.

Chandler car deliveries have been behind orders for many months and are now being promised within thirty to sixty days, while delivery dates are still indefinite on Cleveland Sixes, reports the Peacock, Alexander & Hunter Co.

One of the largest truck agency transactions in the local field was made known recently when the Chester N. Weaver Co., well known as Studebaker dealers for several years, announced that it has entered the truck-selling field with the taking of the distributing agency for the Day-Elder truck, built in Newark, N. J. Weaver's territory includes California, Nevada and Hawaii, in which he has contracted to sell nearly $250,000 worth of trucks this year.

The largest trainload of trucks ever shipped to one destination on the Coast for domestic use, 37 carloads, was recently received by the Pioneer Motor Co., Republic truck dealer, putting them in a position to make immediately delivery on practically all Republic types.

A number of San Francisco dealers have new sales buildings in process of erection. Among these the White-Humphries Motor Co., Commonwealth and Standard Eight car dealers, have lately occupied their new building at Van Ness and Pacific Ave.

The Eastern shows are taking their toll of Pacific Coast visitors. Many San Francisco men are combining visits to their factories with a look-in at New York and Chicago as an important step in preparation for the momentous business season expected to open with the spring of 1920. F. O. Renstrom, William L. Hughson, Paul J. Feely, of the California Motor Sales Co.; M. E. McKenney, of the Denby Motor Truck Co.; J. W. Frawley, W. J. Miller, of the Miller-Rector Co., and W. J. Richardson, of the Chester N. Weaver Co., are some prominent automotive men now in the East.

Haynes Dealers in Spokane.

Incorporated under the name Stewart Consolidated Sales Co., a new Spokane company composed of L. W. Hodgins, president; H. R. Power, vice-president, and C. B. Jones, secretary and treasurer, has taken over the retail sales of Haynes cars in Spokane county, Wash. The new firm has located at 806 Third Ave. They also have the agency for Sterling trucks.

Will Represent Nu-Back.

The Nu-Back Mfg. Co., of St. Louis, Mo., has appointed the Allied Industries, Inc., of San Francisco, Los Angeles and Seattle, its Pacific Coast representatives. Among the Nu-Back products are the Diamond carbon remover, engine enamel, lining dye, aluminum paint, Body-Nu, lamp and fender enamel, Nu-Auto polish, Leath-R-Nu, waterproof mohair top dressing and Ford car enamel.

Ruess With T. N. T. Mfg. Co.

William R. ("Wild Bill") Ruess, former automobile distributor in Los Angeles, is now secretary of the T. N. T. Mfg. Co., Inc., of the same city, manufacturing a light runabout car of semi-racing lines.

California's Roadbuilding Dilemma.

Theoretically, or in terms of bonds issued, plus money actually available, California has $70,000,000 available for highway construction. The State Highway Department desires to expend about $1,000,000 per month throughout the year. The $70,000,000 does not include state bond issues previous to the recent one of $40,000,000. Added to that are these county bond issues, voted within the past few months: Fresno county, $4,000,000; Sonoma, $1,640,000; Napa, $500,000; Santa Cruz, $924,000; San Luis Obispo, $1,500,000; Contra Costa $2,600,000; Yolo, $1,000,000; Sutter $810,000; Butte, $1,800,000; Imperial, $1,000,000 (contemplating $1,500,000 more); San Diego, $2,300,000.

The county bonds, mostly bearing 5 per cent, are easily salable but not so the state bonds. Recently the state board of control had to bid in $3,000,000 worth of state bonds, for lack of bids. They pay only 4½ per cent interest. The board has not yet been able to dispose of the bonds. A similar outlook looms as to the $12,000,000 more of bonds to be offered in February. There is no legal way in which the rate of interest can be increased, except by new legislative action. Failure to dispose of the state bonds means temporary but serious stoppage of the state highway program.

Vaughan Goodyear Secy.-Treas.

W. A. M. Vaughan has been appointed secretary-treasurer of the Goodyear Tire & Rubber Co. of California. This is the result of concentrated attention to business. From an humble job in the mailing room of the National Bank of Cuba, in Havana, he rose in nine years to cashier, in charge of more than forty branches on the island. He was with the bank twelve years. Then he managed the crude rubber activities of Goodyear in Sumatra, where he built up an organization now numbering 10,000 persons. When the California enterprise was decided upon, President Seiberling selected him without hesitation as its secretary and treasurer. He occupies the same positions in the Goodyear Textile Mills Co. and is a director in both companies.

Use Care in Buying Used Car.

At the recent monthly dinner of the Used Car Dealers' Association, Los Angeles, President M. A. Leach opened for discussion the subject of spreading information to prospective buyers on the danger of buying a used automobile from any but a responsible dealer; one who can give evidence of being in the business to stay. "All is not gold that glitters." Some used machines which look well would tell tales, if they could.

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DEALERS FORM OWN INSURANCE FIRM

California Automobile Men Combine to Carry Motor Car and Fire Risks —All Urged to Join.

An automobile insurance company operated by California automobile dealers in the interests of the industry is the status of the new West Automobile and Fire Insurance Co., announced recently by William L. Hughson, its president.

The company will be owned principally by California automobile dealers. All automobile dealers in the state are urged to become identified with the company and share in its profits.

The list of officials and directors includes many of the best-known leaders of the industry in California:

President — William L. Hughson, Wm. L. Hughson Co.

Vice-President—Ralph Hamlin, Ralph Hamlin, Inc.

Vice-President—George Haberfelde, Ford distributor, and president of the California Auto Trades Assn.

Vice-President—A. D. Plughoff, J. W. Leavitt & Co.

Vice-President—Roy B. Alexander, Peacock Motor Sales Co. and Peacock. Alexander & Hunter.

Secretary—Al. G. Faulkner, Al. G. Faulkner Co.

Attorney and Assistant Secretary—Dave F. Smith, Los Angeles Motor Car Dealers' Assn.

Treasurer—A. C. Robbins, Greer-Robbins Co.

Directors—James V. Baldwin, J. V. Baldwin Motor Co.; Lynn C. Buxton, Lynn C. Buxton Co.; E. R. Carpenter, Studebaker Corp.; Benjamin A. Finch, Ford; O. R. Fuller, White Auto Co.; H. O. Harrison, H. O. Harrison Co.; and Robert W. Martland, California Auto Trades Assn.

The West Automobile and Fire Insurance Co. will offer no promotion stock. It is planned to appoint to the advisory board one or more prominent automobile dealers in the principal cities. They will confer with the officers of the company, furnish information and make suggestions for the benefit of business in their locality.

A general agency commission contract will be entered into with the insurance firm of Thomas R. Lamb Co., Inc., assuring a sufficient volume of business from the start to put the company on a paying basis and eliminating such overhead expenses as officers' salaries and regular organization expenses.

Automotive Equipment Exposition.

The First Annual Pacific Coast Automotive Equipment Exposition is to take place at the Auditorium in San Francisco March 30 to April 4 next. Accessory manufacturers from all parts of the United States are sending in applications for space, and indications are that all available space will be sold long before the opening day, March 30.

Special inducements will be made to dealers all over the Pacific Coast territory to attend this show, and already indications point to a tremendous representation from every state west of the Rockies. Many dealers are arranging to spend the entire week in San Francisco studying the great variety of equipment on display. From the standpoint of education and genuine human interest the Pacific Coast Automotive Equipment Exposition will be without a parallel.

ARTHUR BRYSON, Mgr.

MR. QUIGLEY.

Who Are Promoting the First Annual Pacific Coast Automotive Equipment Exposition.

Gets License Plates in a Hurry.

When, recently, a long-awaited trainload of Standard Eight cars arrived in San Francisco for the White-Humphries Motor Co., local dealer, the firm discovered that the very necessary license plates for them had been overlooked. Furthermore, the plates would not come to hand for nearly two weeks, following the normal routine of the state motor vehicle department.

Not to be beaten by a technicality, White-Humphries got in touch with Earl Cooper, former famous racing driver, and of added fame now as an airplane distributor. Accordingly, Frank M. Strauss, sales manager, left San Francisco at 9 o'clock in the morning in one of Cooper's hydroplanes, arrived in Sacramento, transacted the necessary business and was back at his office before lunch the same day.

Represents Gastine on Coast.

I. K. Dunn will represent the Gastine Co., of Bridgeton, N. J., for the entire Pacific Coast territory, according to recent announcement made by the company. They are now preparing plans for a new factory, where the manufacture of Gastine, a gasoline-saving, carbon-eliminating compound, will be greatly expanded.

New Quarters for H. L. Arnold.

Present-day automobile dealers in Los Angeles have from sheer necessity become something of experts on city development and how to divine in what direction the trend of growth will move city business centers.

Such a one is Harold L. Arnold, who forced from his present location at Seventh and Grand Ave. and convinced that the intersection of Seventh and Figueroa Sts. is destined to become the city's commercial heart has bought a large frontage on Figueroa, between Seventh and Orange Sts. Much of it elevated above street level and a steam shovel is now operating to prepare a site for one of the finest automobile sales buildings in Los Angeles.

Highway Commission on Detours.

The California State Highway Commission, having been reproved by the Grand jury of San Joaquin county, made a full reply explaining that while during construction it endeavors to provide temporary roadside or by-pass traffic facilities, sometimes it is necessary to use county roads over which it has no supervision. It does the best it can, and counties must do the same, and so must the public, which, it is pointed out, must recognize the fact that the bad condition of ways temporarily used are probably no worse than was that of main roads a few years ago.

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THREE NEW CARS ON LOS ANGELES' ROW

Davis Six, Beggs Six and American Six Make Local Bow—Deliveries Better—Many New Models.

Distributing connections for three new cars in Southern California have lately been opened in Los Angeles. The Davis Six agency has been taken by Allen E. Negus; that for the Beggs Six, by Frederick A. Wickersham, already well known as Templar and Dorris dealer; and the American Six by the Carpenter Motor Car Co.

New models which have recently appeared in Los Angeles dealers' salesrooms are the Peerless four-passenger car, tht new post-war Marmon 34, the 1920 Crow-Elkhart, American Six touring car and sedan, Pilot coupe and Kissel four-passenger coupe.

The first shipment of Beggs Six cars has arrived, reports Wickersham; he expects 400 cars this year, double that next year. Two open models of the Beggs line have already reached Los Angeles and will be followed by closed cars sometime in February.

On the Chandler deliveries from the factory are being received in increasing quantities by the W. P. Herbert Co. Early demand created a shortage of Cleveland Sixes, they announce, but more frequent shipments are promised and the first enclosed models will soon arrive.

Thirteen carloads of Jordan Sixes received in three weeks and five more en route have put the Seager-Clark Co. in a very fortunate position, although everyone of the thirteen shipments arrived had been sold in advance.

Davidson, House & Meyer, Cole Eight dealers, compare the plentiful allotments they have lately received to the "good old days." During the last five months they have sold more cars than it was thought possible to deliv in twice that time.

Of Elgin Sixes the Occidental Motor Car Co. has five carloads coming and the factory promises an early supply of more.

The McKelvey Motor Sales Co. will receive larger shipments of Liberty cars in the next few months.

Immediate delivery is possible on Stutz touring models and roadsters will soon be available, reports the Walter Brown Company.

The Standard Eight dealers will soon be able to fill more of their back orders, although the first shipment received was sold months ahead.

Studebaker sales are merely a question of getting enough cars to meet the demand, according to Maxwell & Hoffman.

The first R. V.-Knight Six model to appear on the Coast will shortly be received by W. B. Conditt & Co.

Early deliveries are reported possible on Nelson, Moon, Allen, Cole, Kissel, Pilot, Elgin and Auburn. Stutz cars are available on a few touring models and Templar, Davis Six and American Six in limited numbers.

Harold L. Arnold, Hudson, Essex and Maxwell dealer, will move westward on Seventh St., Los Angeles, to higher land at Seventh and Figueroa Sts., where a steam shovel is altering the landscape to prepare a site for a fine new automobile sales building, representing investment of around $1,000,000.

The McKelvey Motor Sales Co. expects to be in its new building, Tenth and Figueroa Sts., by Feb. 15, while the Pacific Motors Co. will locate the King Eight agency in large quarters on Grand Ave.

Quite a number of Los Angeles dealers are at present in the East as visitors at the national automobile shows among them are P. H. Greer, B. S. Swearingen, of Smith Brothers, J. V. Baldwin and Walter H. Fisher.

Ajax Branch in Arizona.

A factory branch will be opened in Phoenix, Ariz., for the Ajax Rubber Co., as a result of the recent visit of Ed. M. Snuffin, district manager for Ajax. Large shipments of tires have recently placed the California branches in a good position to handle the demand for Ajax tires.

Prosperity for Taber Lines.

Notable conditions of prosperity are reported by the T. & T. Mfg. Co., of San Francisco, Cal. The company is manufacturer of the Taber Tire Dressing Wheel and the Taber Everlasting Bearing Scraper, which are produced in their factory at Berkeley, Cal., across San Francisco Bay.

A. B. C. Oil Prices Rise.

Effective January 10, Austin, Bryant & Carter, of Los Angeles, have increased the prices on A. B. C. oils from 5 to 15 cents a gallon, according to the grade of the various oils. Advanced prices on Pennsylvania crude oil, from which the A. B. C. product is made, and higher labor, material and transportation costs, compelled the raise in A. B. C. prices.

Innovation in Used Car Field.

"Used Car News" has recently appeared in its initial number, to be a regular monthly publication issued by the A. A. Peterson Co., of Los Angeles, one of the most progressive and largest used car firms in the country. Valuable information for the car owner will be found in each issue and will be eventually published in book form.

Morris Coming to Los Angeles.

Marshall E. Morris, manager of the Goodyear Tire & Rubber Co.'s salesmen's department, and the man who attracted the attention of the financial world in 1917 by engineering the sale of the company's preferred stock by using the Goodyear selling organization at a time when financial experts declared it couldn't be done with experienced stock salesmen, will leave Akron for Los Angeles this month to become assistant general manager of the new California Goodyear company, and a member of the board of directors.

Mr. Morris entered Goodyear employ in 1912. His aggressiveness and genius for organization brought about his promotion in 1913 to manager of the Pacific Coast district, where he registered a striking success. In 1915 he returned to Akron, and later managed the salesmen's department.

On the formation of the California company he was charged with the distribution of its stock. Having accomplished this to the satisfaction of the company, Mr. Morris will return to the Coast to a warm welcome from his former co-workers.

Samson Tire Moves Offices.

Announcement of the removal of the executive offices of the Samson Tire & Rubber Corp. from the factory at Compton, near Los Angeles, to large and commodious quarters at 333 W. Pico St., Los Angeles, was made this week by Adolf Schleicker, president. The service branch of the company has been established at this address for several months.

The change was necessary because of constantly increasing volume of business. The added efficiency and time saving made it expedient to move the offices from Compton. Samson tires are practically a Los Angeles-made product, being manufactured at Compton, a suburb. The Samson Tire & Rubber Co. manufactures the only cord tire on the Pacific Coast and its chief aim is the highest possible quality at the lowest consistent price.

Davis Six a New Agency.

The Davis Six car has been introduced into the Pacific Coast territory with the taking of the agency by Allen E. Negus, of Los Angeles, for Southern California. The George W. Davis Motor Car Co., of Richmond, Ind., is a long-established firm but limited production has prevented Davis cars becoming plentiful on the Coast.

The car has the Red Seal 7-R Continental six-cylinder engine, Stromberg carburetor, centrifugal water system, pressure feed oil pump, Delco starting-lighting and Rockwell-Mayo airplane-type radiator.

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New Los Angeles Speedway

Work on the Beverly Hills Oval Progressing Rapidly—Will Be Ready for Practice in Short Time

ON THE evening of the last day of last May a number of prominent Los Angeles automobile men gathered in a hotel room in Indianapolis and discussed the stirring features of the great 500-mile race on the Indianapolis Speedway which they had that day witnessed. Not least of all they marveled at the throng that had crowded the enormous stands and packed the infield. One hundred and ten thousand people had gathered to see the race—probably the greatest crowd ever assembled in America to witness a sporting event of any character.

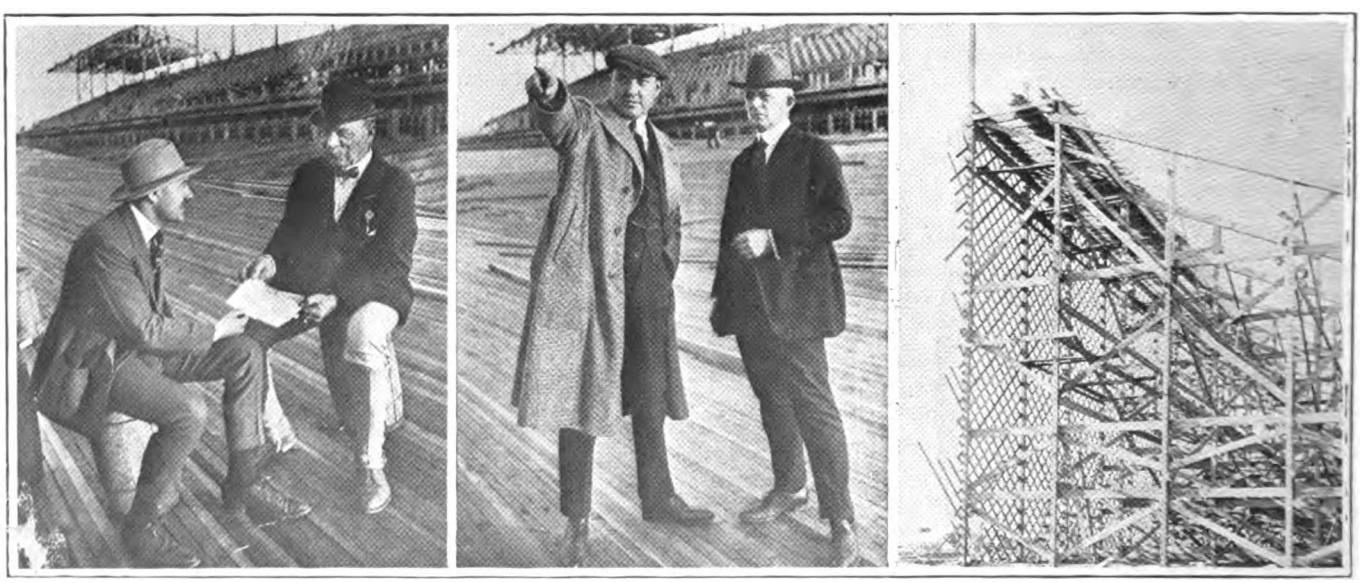
"There's no use talking. Los Angeles ought to have a big-league speedway as one of its attractions. There's no form of sport that will draw as many people as a first-class motor race on a good track," said one of the Los Angeles men, and there was no dissent from his verdict.

From that chance meeting sprouted the germ of an idea, an idea that has virtually become a reality today. In the short months since the last Indianapolis speedway race, the project for a big-league speedway for Los Angeles has evolved from an idea into the most modern speedway in America, today 80 per cent complete, and upon which on the 21st of February will be staged the greatest motor race ever seen in the West. Four million feet of Oregon pine has been fabricated into a mile and a quarter board track, and into stands which will seat 30,000 people. Despite labor shortage and material shortages the work has been pushed without cessation. A ceaseless tide of lumber, crushed rock, oil, cement and nails has poured into the splendid 200-acre field that lies just to the south of Wilshire Boulevard, below the little suburb of Beverly Hills, and by the magic of the engineer and the artisan has been transformed into a wonderful track.

It has been said that Americans worship speed, and if this is true, the new Los Angeles Speedway will prove an altar that will draw them from far and near. Jack Prince, who for thirty years has been building speed tracks, guarantees that the new track will permit speeds of 110 miles an hour. It embodies all of the features that Prince's years of experience have taught him, and all of the worthwhile suggestions that some of the greatest drivers in America could make. Certainly, it is impossible to look down the straightaways where the graceful curves of the ends of the great oval begin and see how almost imperceptibly the track rises to the 35 per cent bank of the extreme ends of the turns without admitting that the track looks like speed. At Uniontown, the last board track which Prince built, a speed of 106 miles an hour in qualifying laps has been attained. The new Los Angeles speedway is an eighth of a mile longer than Uniontown, and it is 400 feet wider across the oval. This makes the turns much more gradual, and will undoubtedly result in much greater speed. In fact many of the drivers wintering in Los Angeles who have inspected the track, predict that the cars and not the track will furnish the limiting factor as far as speed is concerned.

One feature of the new track permits of no argument at all—it is the most wonderfully located track in the world. Some day, if you doubt this assertion when you are driving down Wilshire, take the time to drive in and climb up in the big south grandstand and absorb the view. Remember the palm-lined, rose-bordered highway you traveled over to reach the track. Look to the north, over the line of solemn eucalypti that screens the track from Wilshire, and will see some of the most magnificent homes in America nestling against the brown foothills north of Beverly. Beyond them the hazy blue wall of the Sierra Madres lifts in majesty that swells to crescendo in the snow-crowned summit of San Antonio. Eastward the crowded buildings of down-town Los Angeles flash on the skyline of the ridge that forms the eastern horizon.

You will realize, too, from the vantage point of the grandstand what a wonderful view of a wonderful spectacle of 100-mile-an-hour speed the spectator will obtain. Every thrill of the entire race, no matter at what point on the track it takes place, will be visible to the crowded stands. No the mere flash of a passing car that spectators of the great Southern California road races have had to content



(LEFT TO RIGHT) ROSCOE SARLES GETTING SOME POINTERS FROM JACK PRINCE, WHO DESIGNED THE TRACK. CLIFF DURANT SHOWING MANAGER A. M. YOUNG HOW HE WILL MAKE 115 MILES AN HOUR. WORKING RAPIDLY ON SOUTH STAND.

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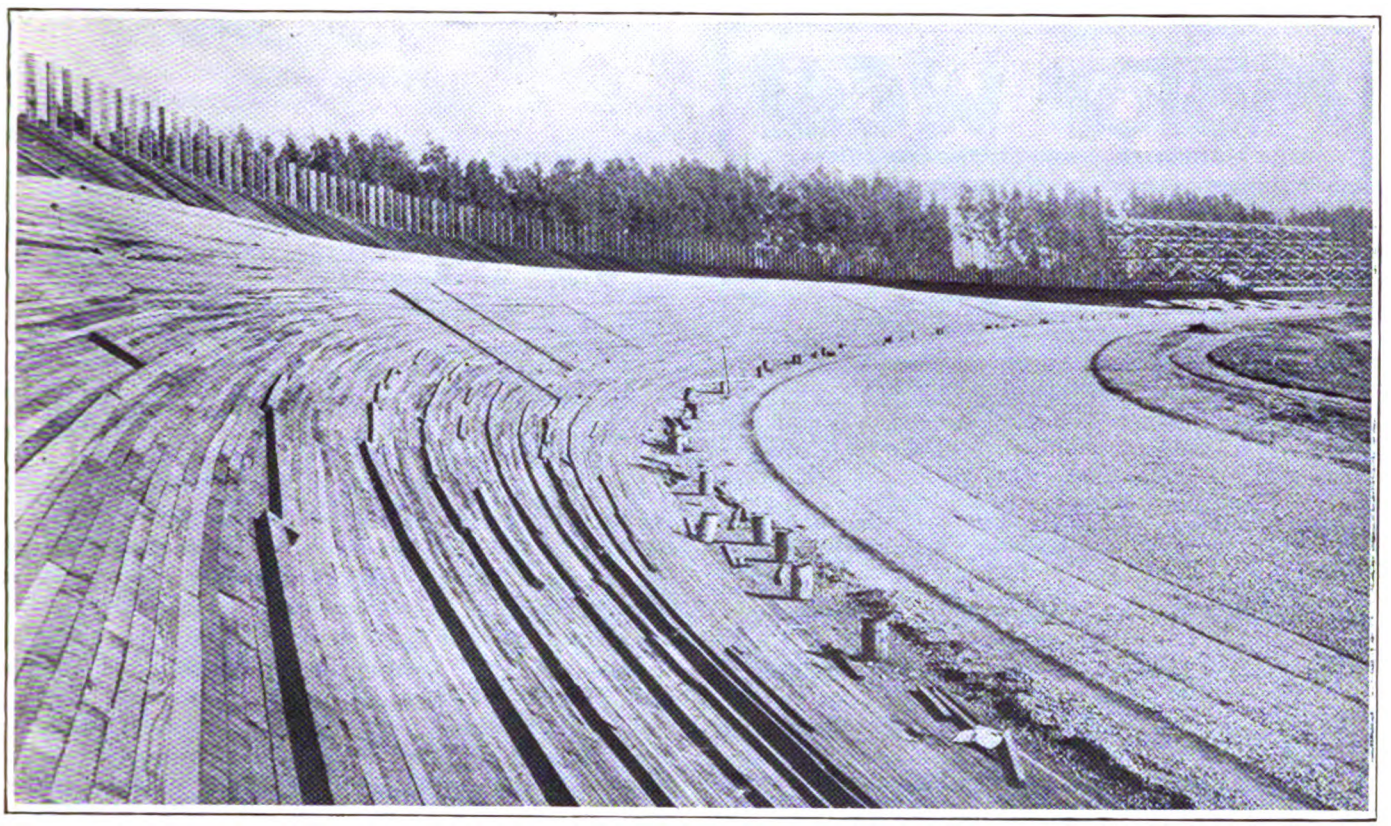

VIEW OF ONE OF THE TURNS, SHOWING WIDE SAFETY ZONE, AND A PORTION OF THE NORTH STAND.

themselves with in the past, but a continuous view of all of the eighteen cars on the track, circling the mile and a quarter in 45 seconds or less.

It is the dream of the men who have fathered the track to make the two yearly races to be held on the new speedway mean as much to the motor industry in general as does the Indianapolis Speedway race. The first and the last great race of each year, will be held on the Los Angeles track. Washington's Birthday and Thanksgiving Day are planned for the dates of the two yearly races. On neither of these dates is Eastern racing practicable, owing to weather conditions, consequently the new track should on those dates draw a field of the best drivers in America.

The first race on the new Speedway promises to attract a notable field of drivers. Prizes totaling $25,000, with $10,000 as first money, have been offered by the Speedway Association. The race will be for 250 miles. Already Cliff Durant has entered two cars, one to be driven by himself, and the three fast Frontenac cars, with Roscoe Sarles, Joe Thomas and K. V. Goodson as drivers, are likewise entered. The Frontenacs made the best showing for the year of any cars that raced in 1920, and Sarles was unofficially awarded second place as the champion driver of the year.

The estimation in which the initial contest on the Los Angeles track is held is evidenced by the fact that the members of the Contest Board of the A. A. A. have promised to attend at the opening race, and it is very probable that Richard Kennerdell, chairman of the board, will act as referee. Chester Ricker, Otis Porter, and Secy. T. E. Myers, of the Indianapolis Speedway Association, who for years have handled the timing of the events on that track, will come to Los Angeles to time the first race.

An especially impressive feature of the new Los Angeles track is the effort that has been made toward the convenience of the spectators. Six tunnels for machines under the track give entrance to the big infield ,and four more tunnels are provided for pedestrians. The board track itself is 50 feet in width. Inside of the track is a 40-foot safety zone of oil-treated crushed rock. A sturdy fence with iron posts and guard rail, and farther back a heavy screen fence will protect the spectators who will watch the race from their parked cars in the infield. No conceivable precaution has been overlooked to make the track safe. The speedway regulations, indeed, call for only a 20-foot safety zone, but this has been doubled in the case of the new Los Angeles track.

Aside from its racing use, there can be no doubt that the new Los Angeles speedway will be made wide use of by motor car manufacturers as a testing ground. Unhampered by bad weather conditions, new models can be tested continuously for long periods on the new track.

At any rate, Southern California and the entire automotive industry owes a debt of gratitude to the Los Angeles men who stepped into the breach when the sport of motor racing in Southern California was threatened with extinction, and provided a track that will rank with the finest ever built in America, and which will give new impetus to one of the most thrilling and cleanest sports that the world has ever seen.

To Tell Consuls What They May Not Know

The object of an extraordinary educative caravan being arranged for by Field Secretary H. C. Osterman, of the Lincoln Highway Association, is to give consuls in states on the route information about the route in their neighborhood and elsewhere. The caravan is to move from the Atlantic to the Pacific, starting June 15. More than 200 consuls will be carried. One manufacturer will send brass band along. Meetings will be held in [illegible] cities.

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Motor West
THE MOTORING AUTHORITY OF THE PACIFIC COAST

Established 1907

AN ILLUSTRATED AUTOMOBILE MAGAZINE OF QUALITY, ISSUED SEMI-MONTHLY.

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JANUARY 15, 1920

Reeves on Automobile Building Record of 1919

ALFRED REEVES, general manager of the National Automobile Chamber of Commerce, points out that, while production of automobiles was low during the first three months of 1919, following the armistice, great strides during the next nine months put the total of motor vehicles manufactured at 1,891,929, exceeding all records, including the 1,868,000 of 1917. The passenger car production, 1,586,787, was slightly less than that of 1917, 1,740,000. The motor truck total for 1919 was 305,000; in 1918, 227,000. The total wholesale value of passenger cars in 1919 was $1,399,282,995, an average of $882; total motor truck value, $408,311,585, an average of $1338; total value of both, $1,807,594,580, which, combined with the wholesale value of bodies spare tires and accessories to fit machines for use, brings the industry close to the two-billion-dollar class, with the certainty apparent that in 1920 it will rank second only to steel.

Belief is expressed that passenger car production this year will be about 2,250,000, and motor truck production 400,000 to 425,000, the results depending largely on materials, particularly for closed cars, for which demand is increasing tremendously.

Exports, now only about $110,000,000, should grow greatly during the next few years. Last year American automobiles went to eighty-one countries, including Iceland, which bought twenty-one, as well as two motor trucks.

Normal annual replacement of automobiles and motor trucks in use is put at about 16 per cent.

Final figures from the states indicate that nearly 7,000,000 motor vehicles are registered and running in the United States, about 10 per cent being motor trucks. In the past two years the agricultural districts have shown largest percentage of increase. The leaders are Tennessee, Alabama, Louisiana and Georgia, where the increase over 1918 ranged from 29 per cent down to 10 per cent.

In 1899, automobiles were barred from Central Park, in New York City. The production and values in that year and some subsequent ones, for passenger cars and motor trucks, are given:

Passenger Cars

Year	Number	Wholesale Value
1899	3,700	$ 4,750,000
1904	21,281	23,634,364
1909	127,731	159,918,506
1914	543,679	413,859,379
1917	1,740,792	1,053,505,781
1918	926,388	801,937,925
1919	1,586,787	1,399,282,995

Average wholesale price for 1919—$882.

Motor Trucks

Year	Number	Wholesale Value
1904	411	$ 946,947
1911	10,655	22,292,321
1917	128,157	220,982,668
1918	227,250	434,168,992
1919	305,142	408,311,585

Average wholesale price for 1919—$1,338.

Well Put; About "Saturation Point"

THE Motor and Accessory Manufacturers' Association realizes two facts—that newspapers easily accept obviously good reading matter when there is not too much of it, and that experience is the best basis for such matter. In a recent mimeographed statement for the press, General Manager M. L. Heminway interestingly quotes H. H. Boyce, vice-president and general manager of the Moto-Meter Co., of Long Island City.

The saturation point in the purchase of automobiles, says Mr. Boyce, depends not upon the number of people there are whose incomes are from so much to so much, but upon the results obtainable by buying an automobile.

In other words, a relatively poor man, being a good business man, may buy a higher-priced machine than will be bought by a wealthier man, not so apt in business, and will make it pay. The other man, and still others, will imitate him.

On that basis, it may be said there is no saturation point; the selling field is practically limitless, if the dealer recognizes that not all motoring is pleasure motoring; that it is a powerful lever for more business for tht business man. The dealer's job is to fortify this recognizance with knowledge, and shoot his facts at the prospect with accuracy and the right kind of persistency.

Life-Saving Walls a Necessity

THE policy of looking before leaping is not commonly followed. If it were, perhaps the world would not progress as rapidly as it does. Its practice, on the whole, is to plunge ahead and discover and remedy defects afterward. One trouble is, it doesn't apply remedies, in many instances, until it has discovered their need repeatedly.

It is so with respect to protections against human beings of more or less value, and sitting in automobiles, being hurled over the edges of dangerous curves into whatever next world there is. It is so in California. It is so in other states. Automobile organizations in California are urging upon the state and counties that, in constructing new roads, upon which in the next few years about $70,000,000 will be expended, relatively little extra cost will be involved if suitable cement or stone retaining walls are built on turns. It is also urged that existing roads should be so protected.

The inability of a wooden fence, recently, to prevent the death of a former senator and three others gives the suggestion every appearance of being a reasonable one.

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Status of National Highway Legislation

THERE is much truth in the old saying that "It's an ill wind that blows nobody good." There was quite a roar when "Motor West" let in the light on some phases of the Townsend plan for a national system of highways, by transmitting to those in automotive lines pertinent information dug up by Western men.

Largely as a result of the constructive criticism in these columns, the Townsend bill has been twice revised, the last time by the National Automobile Chamber of Commerce, with the idea of eliminating the objectionable features brought to light during the discussion of the original measure. The result has been a distinct gain for the country. The much-corrected measure is now, in the main, expressed in perfectly plain English; is without many objectionable features which characterized its predecessors; and is, in fact, a bill which the ordinary person can understand.

Rome was not built in a day. Haste makes waste. Not one of the thousands who have been most urgent in backing what seemed to them, without analysis, to be a most desirable national plan, and who have asked that it be pushed to the construction point in the shortest possible time, would tolerate mad haste in their own business.

Nothing has been hindered, therefore, by our close analysis of the Townsend measure. Great good has been accomplished. All's well that ends well; and this matter of national highway legislation promises to end that way.

Even those who neither see nor care for anything except the apparently quickest way to sales will be very greatly benefited as the result of whatever time may be consumed in a sane study of the national highway system matter. See how sensibly A. G. Batchelder, chairman of the executive board of the American Automobile Association, and one of the most cogent nurses of the first, second and third Townsend bill babies, takes the situation:

"However, if we did not have these different things to discuss, there would not be much fun in life, and I rather enjoy arguing matters with the other fellow. At the moment, the great advantage is that we are bringing about a general discussion of road matters, and ultimately the best solution will be secured; and of that I am quite sure."

No Matter How the Wind Blows

THAT the demand for motor vehicles is increasing, and will increase despite any industrial or financial situation, is conceded by all who realize that, on the one hand, the more economy is necessary the more necessary motor vehicle transportation will become, while, on the other hand, the more industrial conditions may expand, the more motor vehicles will be used.

The attitude of bankers is significant. Their ultra-caution has disappeared. Any well recognized automobile company can obtain funds in any reasonable sum as readily as can be done in any industry.

Best Way to Learn is to Go and See

HE who reads as he runs usually learns little. He who travels as slowly as necessary to study well, learns most and learns it in the best way. Few of us can see far beyond the ends of our noses. Therefore we should nose around.

Samuel Hill, of Seattle, did the people a great service when he financed the journey of Engineer Lancaster to Europe. The result was a series of useful and beautiful features in the construction of the Columbia River Highway which otherwise would not be there, as an example which should be followed elsewhere; notably as to the windowed tunnels, instead of expensive and useless cutting away of rock from the faces of cliffs, the great orifices affording views much more effectively pictorial than otherwise would be possible. This idea Mr. Lancaster got from Switzerland.

Another European idea, so sensible that one wonders it is not in more general use here without having it pointed out, is stone retaining walls at curves. Especially in the mountains, these would save lives, as well as increase the sense of safety in travelers and increase the beauty of the vista too.

Lucky It Worked Even a Little

THE snug little closed car began descent of a well-paved, broad but steep street toward the sea, in a beach town. Woman driving it. Another woman as passenger; also a little dog.

The brakes did not work just right. The machine gained momentum. At the bottom, instead of making the turn, as she might have done, the driver, somewhat confused, drove over a curb, bumped into and shattered a cement post, sending its pieces tumbling down the steps leading to the seashore railroad tracks, narrowly missing a perfectly good "Motor West" man.

Front spring and windshield damaged. Driver cut by bits of glass. Passenger and little dog O. K. Not much excitement—but how different the story might have been. If the brakes had been in worse condition the machine might have dashed down the grade and over the high retaining wall, and smashed in a death-dealing wreck on the tracks below.

A brake lining advertiser says there are 250,000 sets of faulty brakes in the country. Why not be wise, and not only obey the written law but also the law of common sense, in this matter?

Motor Trucks Increasing the Radius

THAT "it is an ill wind that blows nobody good" is proved by the railroad situation. Everywhere a shortage of freight cars and lack of construction of new lines. Everywhere, consequently, a forced understanding of the efficiency of the motor truck. Already a large number of business concerns are using it for distributing their entire production within a radius of from 50 to 200 miles, and are finding it far superior to the old way and a multiplier of commerce. Transportation costs, including packing, handling, hauling, time, damage and loss, are less.

The pleasing reflex of this is that motor truck manufacturers are taxed to capacity.

FEBRUARY 15TH ISSUE OF

MOTOR WEST

will be the PACIFIC MOTOR SHOW NUMBER.

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New York's 20th National Motor Show a Success

"On the Spot" Spooner's Impressions of Big Annual Round-Up of Automotive Industry— Big Business Keynote of Week—New Things in Body and Chassis Design— Motor Truck Show To Far Away and Too Cold

NEW YORK, Jan. 10.—More dealers saw New York City—as they went to and from the Twentieth Annual National Automobile and National Motor Truck Show, from January 3 to January 10, 1920, inclusive, than ever before; and by sheer pressure of business, and inability to get all they want just where they would prefer to get it, many of them sought new lines. Even manufacturers who had to exhibit at the hotels have done wonderfully well, and all will be booked up to their limits for the year. There you have the business end of it, in a nutshell.

Socially—scads of sociability, with all the high pressure. There always is. Every organization, every committee, every manufacturer—everybody—participated in show social doings as host or guest or both.

About one thousand diners and only one speaker, and he a crackerjack—that may be said to have been the social sensation of the week. It was the Tuesday night dinner of the National Automobile Chamber of Commerce, at the Commodore. President Clifton presided and George Graham of Buffalo was the word wizard. There was another notable feature—a playlet, elaborately presented by New York newspapermen and trade men. It was written by Harry Caldwell and Fred Dayton. "Court of Old King Cole" was its title.

By living proxies the famous painting, by Maxfield Parrish, which hangs in Hotel Knickerbocker, was reproduced in the Commodore ballroom. The figures in the "living pictures" "came to life" and indulged in an uproarious satire upon incidents and people in the automotive industries. For example, huge and ludicrous medals were presented to John North Willys; J. Dallas Dort, of Flint; Col. Charles Clifton and C. C. Hanch, general manager of Maxwell-Chalmers. General Manager Alfred Reeves, in court costume, made the presentations with facetious speeches.

Incidentally, there was a lot of rattling of closet skeletons which correspondents are not supposed to have heard.

Two newsboys in medieval costumes entered, carrying the Detroit Free Press. King Cole asked for news of the industry. He got it, as Vin Rouge brothers, standing at either side of the King, read satirical items, the room roared.

The next night, Wednesday, was also extremely social. It was carnival night for the Society of Automotive Engineers, at Hotel Astor. There was a Midway Plaisance, jazzy jazz melody, dancing of the same variety. The same evening the Washington Times entertained about 400 trade and newspaper men with a party at the Nora Bayes theatre, and a buffet lunch at the Astor afterward. At noon, Wednesday, Franklin dealers broke bread and other things together. New York dealers gave the show managers a luncheon during the day.

Another important Wednesday item was the dinner of the Motor and Accessory Manufacturers' Association, which held its twelfth annual meeting in the evening.

And so on. Wednesday was not the only day. Every day was a full day despite the drouth, and every attempt to reach either show was a great adventure. So strong is the pressure that salesmen work in relays, at the motor truck show especially.

Having the motor truck show so far from the business center—at 194th street and Jerome avenue—was an error. The building is remarkably large and ideal for a commercial car exhibition, but how to reach it has been the question, and the answer has been read in the attendance. Subway diagrams are all right for the cognoscenti, but too many visitors slipped a cog early in the week, and had trouble getting there.

The automobile show held in Grand Central Palace, opened at 2 p. m., Saturday, January 3, and closed in a blaze of glory and blare of sound at 10:30 p. m., tonight, Saturday, January 10. Nothing doing Sunday, January 4. Under the auspices of the National Automotive Chamber of Commerce and management of S. A. Miles, the show occupied the four lower floors. The number of exhibitors of passenger cars—84; of accessory, parts and sundries concerns—227. A large number who could not, and some who would not if they could, get space, exhibited at the hotels, if they could. Highest priced car,—over $11,000; lowest priced,—$715.

The show committee consisted of John N. Willys, chairman Willys-Overland Company; H. G. Root, Westcott Motor Co.; Harry M. Jewett, Paige-Detroit Motor Co.

The automobile show, averaging five cars per exhibitor, totaled about 400 completely equipped cars or chassis. Stripped chassis were exhibited in more than half of the spaces. Only two machines were shown which use other than gasoline fuel, one being an electric, the Milburn; the other a Stanley steamer.

. Sixes will predominate, though the show contains many fours. One maker's estimate is that sixes now form 55.8 per cent of all American types. After increasing in use during ten years, they reached domination in 1918, with 51.7 per cent. In 1919 53.2 per cent was reached and another 2 per cent increase is expected for 1920.

Body design, engines and chassis detail have received most attention. Slight changes are seen in clutches, transmission, steering and axles. Universal joints and wheels show some improvements; otherwise the lower parts are practically unchanged. This is partly because high pressure during and since the war has prevented.

There are more overhead valve engines, and improvement of lubrication in the models previously equipped with overhead valves. Engines have greater power, with but little change in displacement. Unchanged features noticeable include detachable cylinder heads—which in fact are "coming back" through merit; vacuum fuel feed, etc. There are some fine examples of bearings without shims, and new high-pressure oiling systems, improved valve gear. Aluminum is more used than ever, for lightness, in various parts—partly due to war experience.

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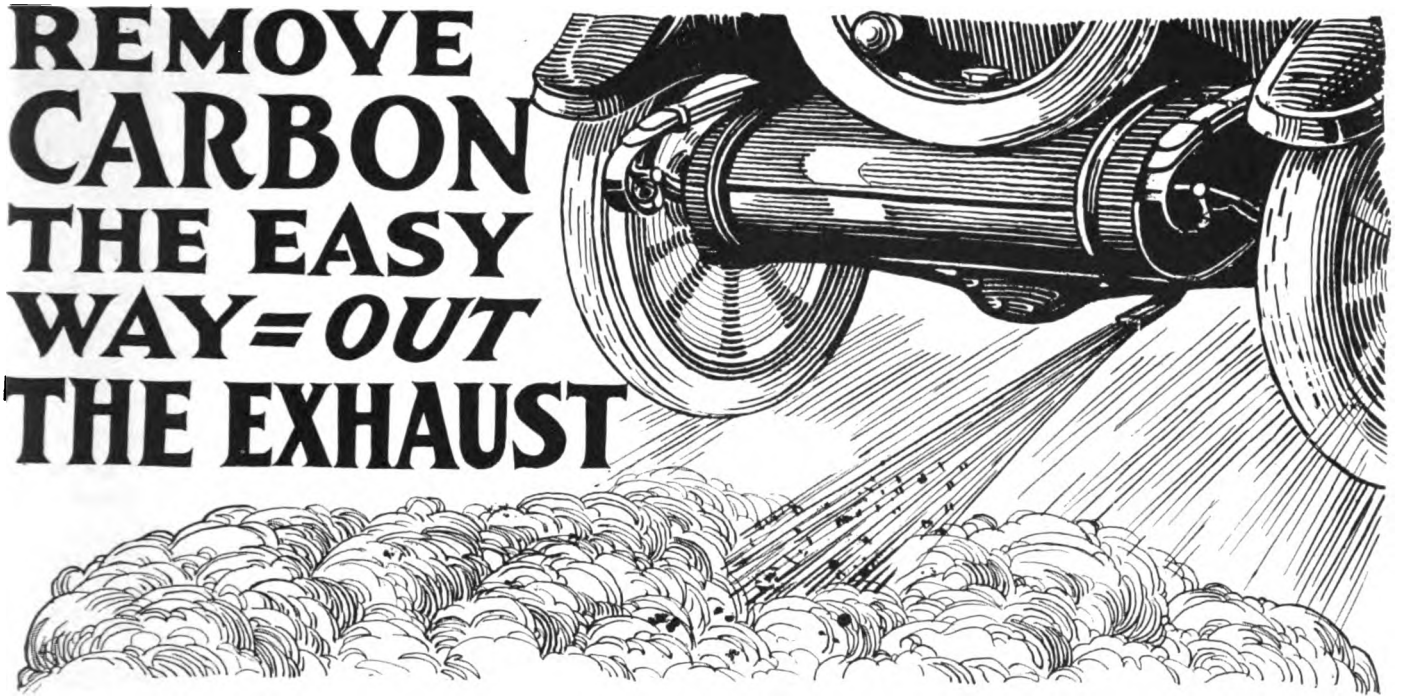
REMOVE CARBON THE EASY WAY=OUT THE EXHAUST



THE easiest, cleanest, safest and most satisfactory method of removing carbon deposits is with Johnson's Carbon Remover. It will save you from $3.00 to $5.00 over any other method without laying up your car. After one application your car will run like it did the first 500 miles—quietly and full of "pep"—and you will secure the maximum power and speed from the minimum amount of fuel.

JOHNSON'S CARBON REMOVER

A dose of Johnson's Carbon Remover, the engine laxative, will cure 80% of engine troubles. It will increase the power of your car—improve acceleration—stop that knock—quiet your motor—save your batteries—and cut down your repair bills.

Johnson's Carbon Remover is a perfectly harmless liquid to be poured or squirted into the cylinders. Millions of cans have been used. Recommended by many of the leading car manufacturers, including the Packard and Studebaker Companies.

JOHNSON'S
RADIATOR CEMENT

will stop leaks immediately without laying up the car—no mechanical experience required. It contains nothing which can clog or coat the cooling system and is absolutely harmless in every respect. It isn't a make-shift—it's a permanent repair. Will ordinarily seal leaks in from two to ten minutes.

JOHNSON'S
HASTEE PATCH

This is the ideal repair for tubes, casings and rubber goods of all kinds. No time, labor or heat required. A patch can be applied in three minutes and it's so simple a child can use it. Gives equally good results on a pin hole puncture or an a large blow-out. Conveniently put up in strips.

JOHNSON'S
BLACK-LAC

Here is a preparation with which you can make your gray, dusty top and side curtains look like new. Johnson's Black-Lac is unequalled for blackening fenders, rims, hoods, lamps—and in fact, all worn metal parts. Prevents rust and keeps your car in a high state of repair.

Write for our booklet on "Keeping Cars Young"—it's free

S. C. JOHNSON & SON, Dept. M. W. 1, Racine, Wis.

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There are many new and graceful originalities of body and chassis; many new mechanical improvements and cunning efficiency devices perfected by automotive engineers—all this despite the great post-war demand for all makes of automobiles. There is a type for every taste and purse. The smaller new things include doors and door handles, instruments and fendering—changes not as costly and much more easily made than such as involve making new dies.

In bodies there is a bewildering array of conceptions. Most designers have adhered to the basic lines shown last year in such numbers—high hood; usually with an angle at each side; more louvres; more substantial windshield supports; more shields in evidence, and a few concerns have taken up small built-in pieces attached to the windshields. This form undoubtedly will be standard equipment in a few years.

The automobile show decorations, intended to symbolize spring, involved use of much smilax and greens. Incomers viewed the interior through a frame of bay trees and floral masses. Each exhibit was enclosed with white railing, supported by white posts capped with brown. Specially designed fabrics curtained the big windows lighting each of the four floors. Great tapestry panels, set at intervals along the walls, depicted fanciful scenes of English country life, bore coats of arms and, at the top, the name of the nearest exhibitor.

It goes without saying—the Twentieth Annual National Automobile Show is the proverbial huge success, not only as to domestic but astonishingly so as to export demand.

The Motor Truck Show.

Some diplomacy may be needed to eradicate the chill given the motor truck men not only by the frigid structure in which their show was held, but by its distance from the heart of things. The talk is toward independence in promoting the annual displays. It takes experience to do that, though. The talk is said to have almost heated the building, the cold concrete floors of which had something to do with the irritation. Criticism is even made against the refusal to yield to the alleged attempted holdup of the Madison Square people—a demand for $25,000 for the week, instead of $1000 a day.

The N. A. C. C., instead, took an armory, which proved to be too far away; and then induced the exhibitors to finance a $30,000 pool for general advertising, to get folks to make the long journey to the place, at 194th and Jerome. The critics wail that Madison Square, even at the holdup price, or probably at a compromise, with the 69th Regiment Armory for overflow, would have been—but what's the use? Mistakes will happen in the best of regulated families, and nobody likes to be held up.

The congestion which forced the motor truck show to be held far from the usual haunts of men may result in decision to have one great national motor truck show yearly—maybe in the huge building Jack Thompson may succeed in putting up in Detroit. The manufacturers may force some such move. The situation in Chicago is not as bad as in New York—even if a joker did say one reason the International Amphitheater there is easy to find is because one has only to follow the scent.

The exhibition of the Motor Truck Division was held in the 8th Coast Artillery Armory, at Jerome Avenue, Kingsbridge Road and 194th Street, on the main drill floor. It was under the auspices of the N. A. C. C. and managed by S. A. Miles. It opened at 3 p. m. Saturday, January 3, was closed next day, then open from 10 a. m. to 10:30 p. m. daily, including Saturday, January 10. Number of exhibitors of motor trucks,—69; of accessories, parts and sundries, trailers and bodies,—69. Show committee: M. L. Pulcher, chairman, Federal Motor Truck Co.: A. J. Whipple, Diamond T Motor Car Co.; David Ludlum, Autocar Company. Prices of trucks, $935 up.

About 38 per cent of the motor truck models at the show were 1½ and 2-ton capacity; next, 3½-ton; then 2½-ton, 5-ton and 1-ton. Production estimates for the various models not yet available, but the trend in load capacity shows pronounced increase in the 1½ and 2½-ton chassis, the latter having gained over 50 per cent, or nearly 300 per cent since 1915. The 1½-ton chassis models have increased about 30 per cent. There is a slight increase in the number of 3½ and 5-ton models.

A characteristic of the motor truck show was concentrated production—a number of refinements, but no marked departures from standard engineering practice.

The motor truck exhibition was on the site of the former Jerome Park race track, where many a turf classic drew 10,000 or more spectators at a time; when horsepower and shoe leather were the only transportation facilities between the city and the park. And those conditions continued to today—no motor truck show, none of the great prosperity of that industry. And yet the motor truck men kicked. It was the only way to keep warm.

Yellow and green were the predominating color notes of decorations in the show—spring, cheery atmosphere, the idea. Yet it was a chilly spring, despite the fact that of the 180,000 square feet of floor space, 120,000 square feet were covered with linoleum. Thirty thousand yards of bunting, weight 17,500 pounds, was used for the decorations.

At least four motor truck makers have planned a production of 20,000 each for 1920, and the total year's output it to be 80,000 more than the country's entire output in 1915. In 1917 the value of motor trucks produced was over $220,000,000; in 1918, $434,000,000, and though there were no war orders in 1919, it exceeded the 1918 record. The total estimated output for 1920 is 325,000, divided among about 530 models.

The Motor Transport Conference, which was held in conjunction with the Motor Truck Division, held its first session Saturday evening, January 3, though special motion pictures were shown in the afternoon. Several papers were read, and discussion held, on each of two general subjects, every day. The conference was directed by John R. Heustis. The papers and discussions were intensely interesting not only to the technical men but to all who heard them, as being intimately related to daily living—including grub.

Headquarters of the First National Motor Truck Reliability Contest were at Hotel Astor. In Chicago, Congress Hotel will be headquarters. Charles P. Root, general manager; S. P. LaDue, resident manager, and F. Ed. Spooner, promotion manager, were in New York and will be in Chicago.

New York Show Brevities.

One manufacturer, asked by some of his men as to their duties at the automobile show, said: "You came down here to work." And it was so, in that and every other case. Yet everybody had a good time.

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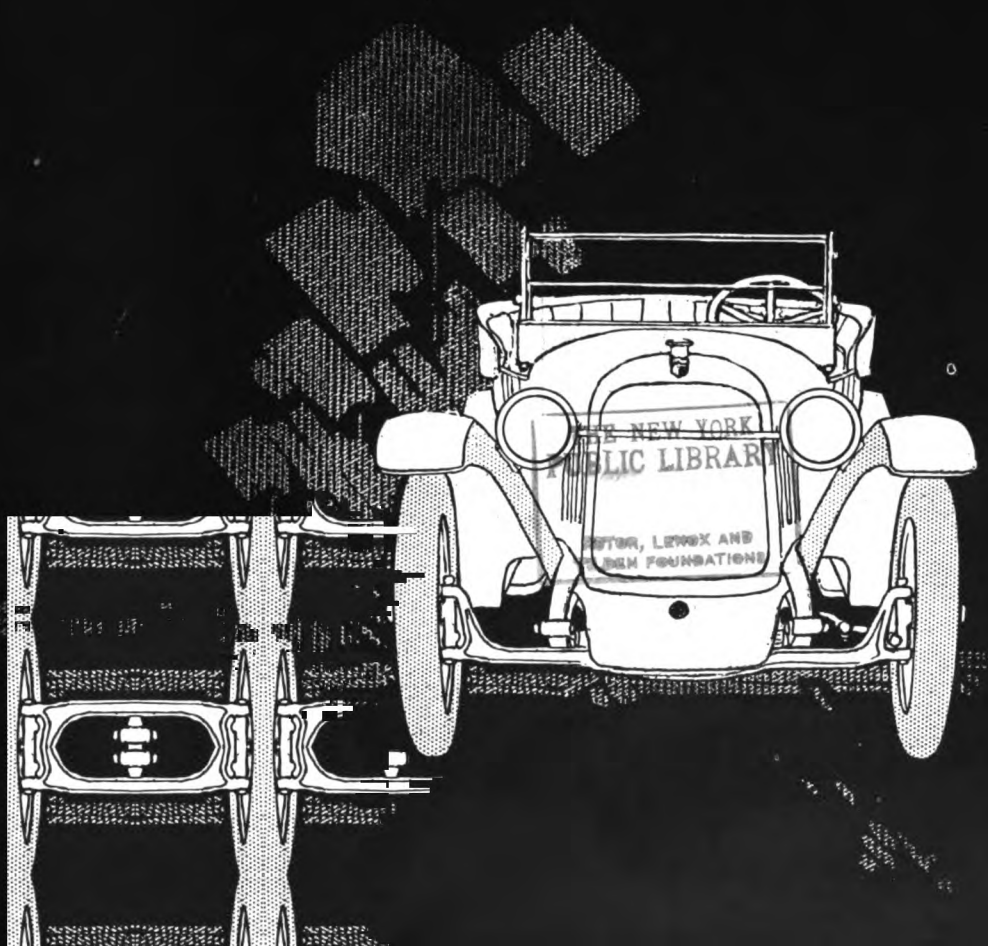
Maibohm

Lighter Cars—less unsprung weight, better bodies, freedom from squeaks and rattles, more comfort—reads the handwriting on the wall.

Admiration has long centered on the huge and costly automobile, with its torrent of power, its lounging ease and its safe high speeds. But appreciation is of the dollar value of light weight and un-costly renewal equipment. The world knows that the car of the future must be lighter—much lighter—and with six cylinders.

Maibohm foretold this four years ago, with a car of homey comfort, roaring speed, glowing good-looks—yet light on its feet and a slow user of fuel. Consistently refined and improved, Maibohm has always been and is the *good* light-weight six-cylinder car.



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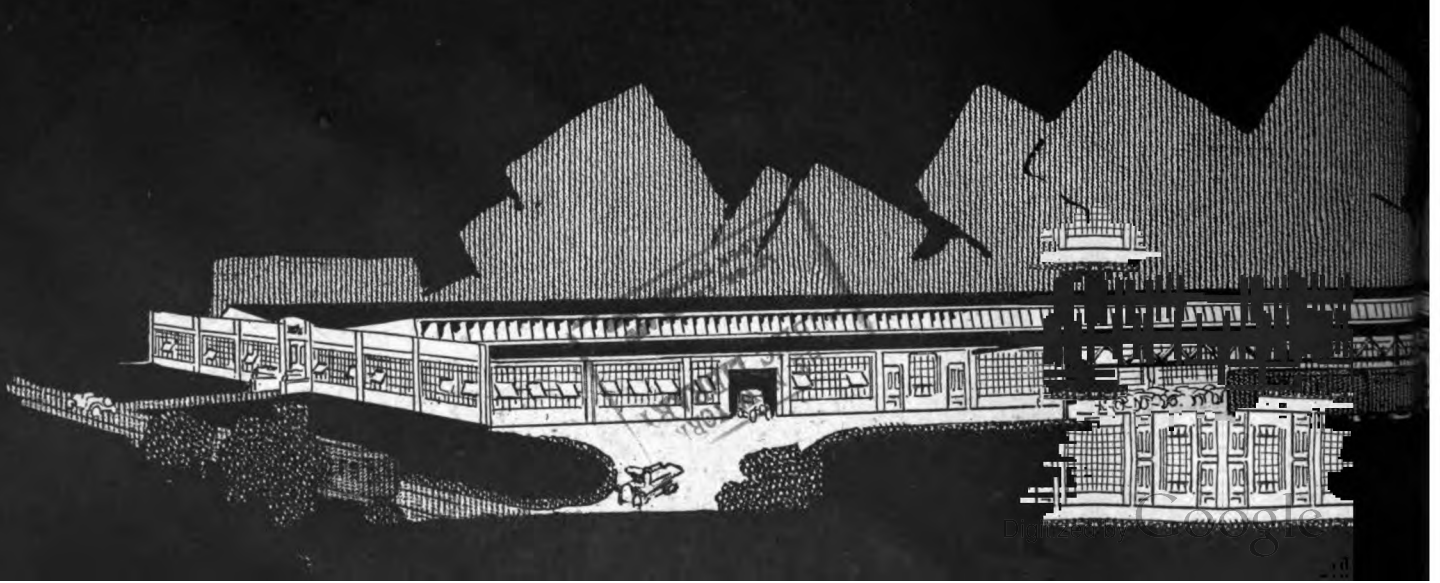
Maibohm

Tangible

Thirty-one Years Ago the name Maibohm was first stamped on the sill of a fine carriage. In a small custom coach shop a band of skilled workers, each with the Old-World artisan's pride in the accuracy and and the artistry of his work, laid the foundation of a great organization. Four years ago, after more than a quarter-century of growth, the organization turned its skill to the manufacture of automobiles. The same honest pride in work that is good has been carefully maintained.

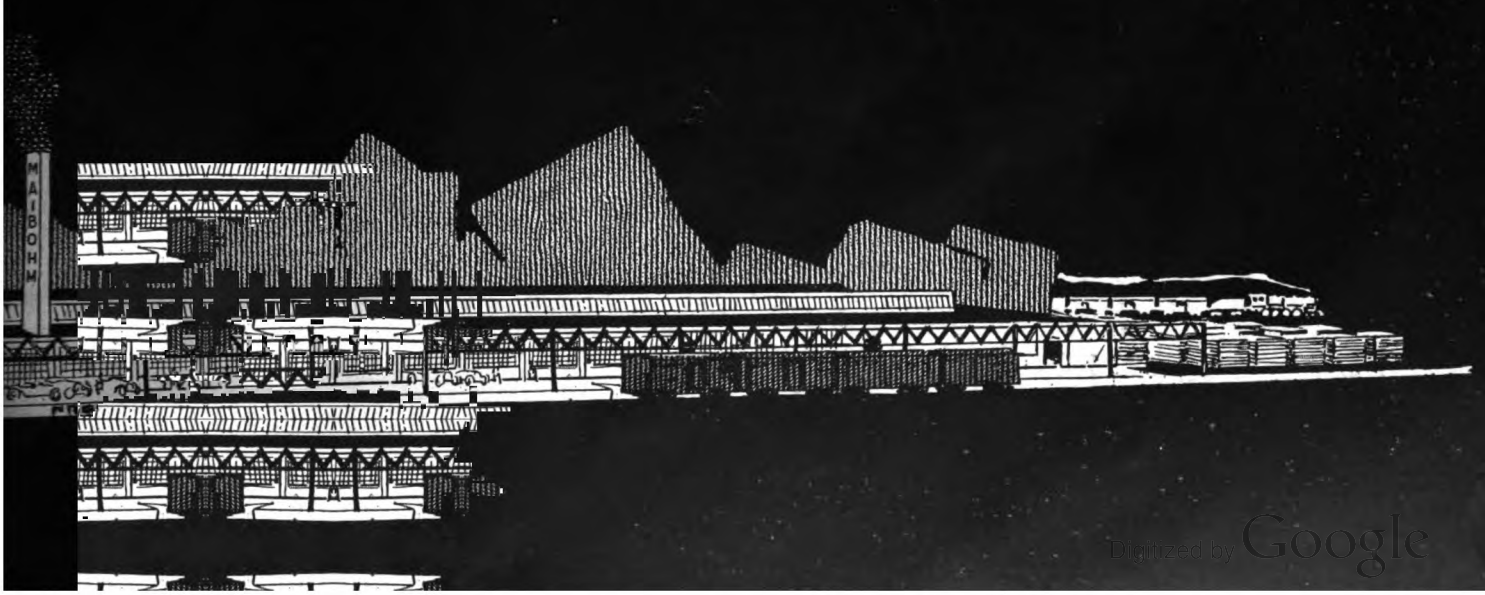


Established 1888

Assets

Today, in a huge new factory whose plaster is hardly set, the skill and the pride of the master craftsmen direct mammoth production facilities.

Accuracy and artistry guide the most efficient and up-to-date machinery obtainable for the quantity manufacture of fine automobile chassis and bodies, in one of the world's most modern automobile plants. Skilled brains and hands control the finest instruments of production. Loyal men are proud of their product.



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Maibohm

Packed Sand In Time Becomes a Rock.

Years of sound business dealings create a rock-bound organization. The person who sells or the person who owns a Maibohm car has the satisfaction of permanency and confidence bred through.

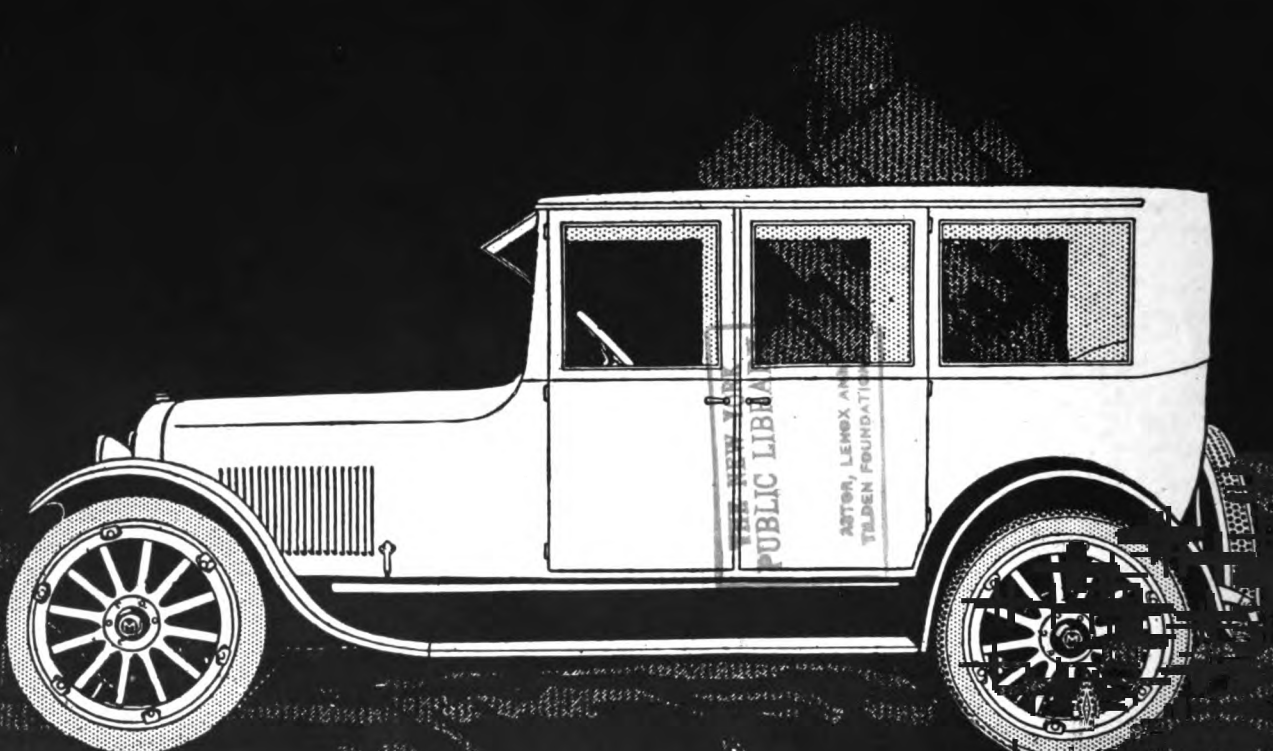
You are looking to the future of the motor car—the future car, the future builders and the future initial and upkeep costs.

The day approaches when motor cars will live whose builders are most staunch, whose resources and manufacturing facilities will permit them to keep abreast with the times.

Maibohm's very record is assurance that it will go on and on through the years.

Maibohm, Sandusky, Ohio

Makers of Fine Vehicles Since 1893



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Those who couldn't get space, exhibited at hotels if they could. Those who could get space had headquarters at hotels. And it was in the hotels much of the business was closed.

Oh, la, la! The Lafayette twins, D. McCall White and E. C. Howard, were deluged with orders at the Commodore.

The Martin-Wasp, in which C. Arthur Benjamin, old-timer, is said to be interested, was exhibited at the Commodore.

Harry Stutz and his H. C. S. car were both on exhibition at the Astor, and both were good sellers.

The ownership of the Pierce-Arrow has been quite an open-muffler topic. It is discussed everywhere. At the N. A. C. C. dinner it was mentioned both from the speaker's platform, by George Graham, and in the playlet.

Some traveled to Brooklyn to sleep; others to Newark; even to Philadelphia.

The Southern dealers seem to be most strongly represented, and most urgent for opportunities to place orders.

Lemuel Loosehead is here. He says: "Whaddy ye mean, saturation? They wa'n't none, they ain't none and they ain't gonna be none."

From the talk of the hordes flocking to the automobile show in Grand Central Palace, evidently many want to see only what they have made up their minds to buy—and price seems to cut no figure. Delivery is the thing.

No society night, really. Every night has been THE night. The wealthy ones vie with the workmen in buying—and find them vigorous bidders.

Dodge Brothers brought on a band from Detroit for their dealers' dinner and concert at the Ritz-Carlton.

The 10,000 edition of the Detroit Free Press' annual directory of the show, compiled by On-the-Spot Spooner, was exhausted as early as Tuesday.

Both at the shows and at the hotels, makers were saddened by having to turn down hundreds of orders. Even for territories where they have not been represented, they could not do what they wished.

Absolutely buried in business—practically every concern in the automotive industries.

Queues of waiters—scads of them—men standing in line at the hotels, anxious for rooms—have been common sights. A friend with a room and a cot in it was a friend indeed.

Velie Motors Corp. had a dealers' meeting and luncheon at the Claridge, Wednesday.

In the playlet, at the N. A. C. C. dinner, Wednesday, a feature was a skit about a long automobile journey—an all-day trip, and, just at fall of dusk, a sign reached—"Ten miles to the truck show."

Walter Chrysler, former vice president of General Motors and head of the Buick Motor Car Co., who resigned some time ago, has been made vice-president and chief executive of the John N. Willys interests. He will have charge of manufacturing for the Willys-Overland Company and Willys Corp. and will make headquarters in New York. He will relieve Mr. Willys of much of his burden, which is a heavy one.

Emlen S. Hare and associates, all former Packard men, have acquired the Simplex Automobile Co. After they had secured the Mercer Company at Trenton they bought control of Locomobile. It is evident that a new giant is arising, in the form of Mr. Hare.

On the opening day, one correspondent wired his newspaper, among other things, as to the motor truck show: " . . but reaching it is simple, for the subway runs from the front of the Palace to the truck show building in 35 minutes." Later in the week, he wired somewhat differently.

One Detroiter who wired to 21 hotels in New York the week before the show received word from every one—"No accommodations."

Many hotel lobbies were turned into miniature automobile and accessory shows.

Among the scheduled meetings of the week were those of the N. A. C. C., the Society of Automotive Engineers, the Automobile Club of America, the Rubber Association of America, the National Automobile Dealers' Association and the Motor and Accessory Manufacturers Association. Numerous committee meetings were held.

Those who had actual business on with truck manufacturers got to the building willy nilly. In automobiles it is a long, fine ride.

There were show days dedicated to these, those and the others, but the greatest of them all, in a way, was Thursday, engineers' day, which was ushered in the night before when 1500 members of the Society of Automotive Engineers and their friends celebrated at Hotel Astor.

The advertising managers of concerns in the N. A. C. C. had a meeting, to their great mutual advantage.

Of all the makes exhibited, only about half a dozen lacked some distinguishing mark on the front of the car.

Some motor truck makers predicted that before long their business will rank in volume with the passenger car business.

The Dodge brothers arrived for the show on the opening day. Tuesday, January 6, they attended a dinner of 200 Dodge salesmen. Wednesday both were ill and still are, Horace with pneumonia, his brother with grippe. (Late dispatch—John F. Dodge died on January 14th.)

Meetings of Automotive Engineers

The Society of Automotive Engineers always noses around the shows scientifically. If it were not so—if these men, but for whose labors, resulting in standard sizes of things without hindering individuality, automobile owners would have many troubles—did nothing but be joyful at these annual exhibitions, modern commerce would not be what it is.

They also discussed, as they annually do. On Wednes-

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day they heard reports, and held a symposium on needs and tendencies of engine design. Papers on this were read by F. H. Trego and L. H. Pomeroy. After luncheon E. G. Gunn, extensively experienced with aluminum pistons, spoke. Mr. Brewster, man of many years in custom body designing and building, gave of his store of knowledge. Benjamin Liebowitz read a paper on the measurement of vehicle vibrations. E. Favary discussed spring suspension. L. L. Scott talked of automotive steam systems.

Thursday, at the fuel research session, these subjects came up: Adapting engines to available fuels, by J. G. Vincent; high speed indicators, by Thomas Midgley, Jr., and S. W. Sparrow; lubrication research, G. A. Kramer; mixed fuels, Dr. R. M. Strong; a standard of carburetor performance, O. C. Perry, professor of gasoline and automotive engineering, Purdue University; supercharging engines, and supercharges, Maj. G. E. A. Hallett—showing to what degree, under decreased barometric pressure, maintenance of engine power can be counted upon when the super-charger is used on airplanes at high altitudes; bettering the efficiency of existing engines, H. C. Gibson. Also, there was a symposium on combustion of hydrocarbon fuels, participated in by Dr. H. C. Dickinson, C. F. Kettering, H. L. Horning, Donald McKenzie and H. Honoman.

Glidden Tour Decided Upon

Final decision to run the Glidden tour to the Pacific Coast next September was reached during the New York Show, according to Chairman Kennerdell of the A. A. A. Contest Board. A number of manufacturers attended a dinner at which it was discussed. Sentiment was strong for a final run for the trophy, and entry blanks are to be sent out soon. A representative participation seems assured. Charles P. Root, who was general manager of the first national motor truck reliability tour, will be Mr. Kennerdell's contest manager on the trip.

Many old-timers who took part in the earlier Glidden tours are lining up for this one, which is expected to be the greatest of them all. The trophy will be won individually, but many makers will enter teams.

California Highway Commission Activities

Construction of an important 1.28 mile link, by the state highway engineer, has been ordered by the California Highway Commission. The stretch is between El Portal and Yosemite National Park, to connect with the road in the park itself. The work is expected to be completed in time for use in 1920.

The commission occasionally has requests for financial aid on projects other than provided for in bond issues. These have to be refused. The fact that the state highway bonds are very difficult to sell on account of the low interest rate, 4½ per cent, may even impede the 1920 construction program that has been outlined.

Replying to the Fresno County Chamber of Commerce, the commission states that the route of Pacheco Pass highway from Califa will not be changed, Califa being regarded as the preferable eastern terminus of this cross-state lateral.

Reno's city council asked that the highway between Truckee and Verdi be along the Southern Pacific and Truckee River, instead of via so-called Dog Valley grade. The matter had been thoroughly considered, however, the latter route being found more practicable and economical.

The commission frequently has requests for permits to vendors desiring to erect stands on the state highways, or for permission to erect signs thereon. The law forbids this. On the other hand, the commission cannot exercise police powers, carrying out the law being incumbent upon local authorities.

LAFERTY IS WORKING NOW.

Laferty is a mechanic in the Apperson plant in Kokomo—a regular jack-rabbit of a mechanic since the company began giving its men 25 per cent of the net profits in addition to their wages. In fact, the plant is full of Lafertys.

Every week, each man's pay envelope contains a different card, each with a different message. During a whole year, only one has been found thrown away. The men take them home. Here's one of the bits of homely business philosophy:

"You are working now on your own time. The more you accomplish, the greater are your profits at the end of the year. Remember, things that are possible are as good as done, while things that seem impossible must be done anyway."

Production has jumped and errors have decreased remarkably, since the idea was begun.

M. & A. M. HELPED MOBILIZE INDUSTRY DURING WAR.

The lessons taught by the war were quickly assimilated by the automotive industry, so that the parts and accessories supplied for American automobiles are today of a much higher quality.

Through its national bodies the automobile industry was enabled to change from peace to war basis, and then back to the conditions of peace with the minimum interruptions to its manufacturing schedules. The Motor and Accessory Manufacturers Association kept its members in close touch with the Government operations, and helped in mobilizing the industry for tremendous effectiveness and service at critical points.

Because of the ravages of the war on the world's man power, it has become vitally necessary that automotive applications of all kind be hastened to take the load off man's back. Therefore, there is a tremendous future for the automobile, the airplane, the truck and the tractor. The automobile parts and accessories industry has enormous machine power capacities that are versatile and can be quickly applied to contingencies as they arise.—C. E. Thompson, president, Motor and Accessory Manufacturers Association.

There will be intense rebuilding in the Spring in Virginia, West Virginia and Kentucky. In Arkansas, a bill proposes 1,000 miles of hard roads in five years, at a cost of $15,000,000.

Calendar of Coming Events

Jan. 19-25—Oakland, Cal., Automobile Show, Civic Auditorium, Robert W. Martland, Mgr.

Jan. 21-25—Spokane, Wash., Second Progressive Automobile Show.

Jan. 24-31—Chicago National Automobile Shows (Passenger cars and trucks).

Feb. 9-14—Salt Lake City, Utah, Automobile Show, Bonneville Park.

Feb. 9-14—Kansas City, Mo., National Tractor Show.

Feb.—Seattle, Wash., Automobile Show.

Feb. 21-28—Fourth Annual Pacific Automobile Show, Civic Auditorium, San Francisco, Cal.; G. A. Wahlgreen, Mgr.

Feb. 22—New Los Angeles Speedway, Beverly Hills, Opening Event.

Feb. 23-28—Portland, Ore., Automobile Show, Ice Palace; M. O. Wilkins, Mgr.

Feb. 23-28—Portland, Ore., Motor Truck Show, Armory; M. O. Wilkins, Mgr.

March 2-6—Denver, Colo., Automobile Show.

March—Ninth Annual Automobile Show, Los Angeles, Cal.

March 30—April 4—First Annual Pacific Coast Automotive Equipment Exposition, Civic Auditorium, San Francisco, Cal.

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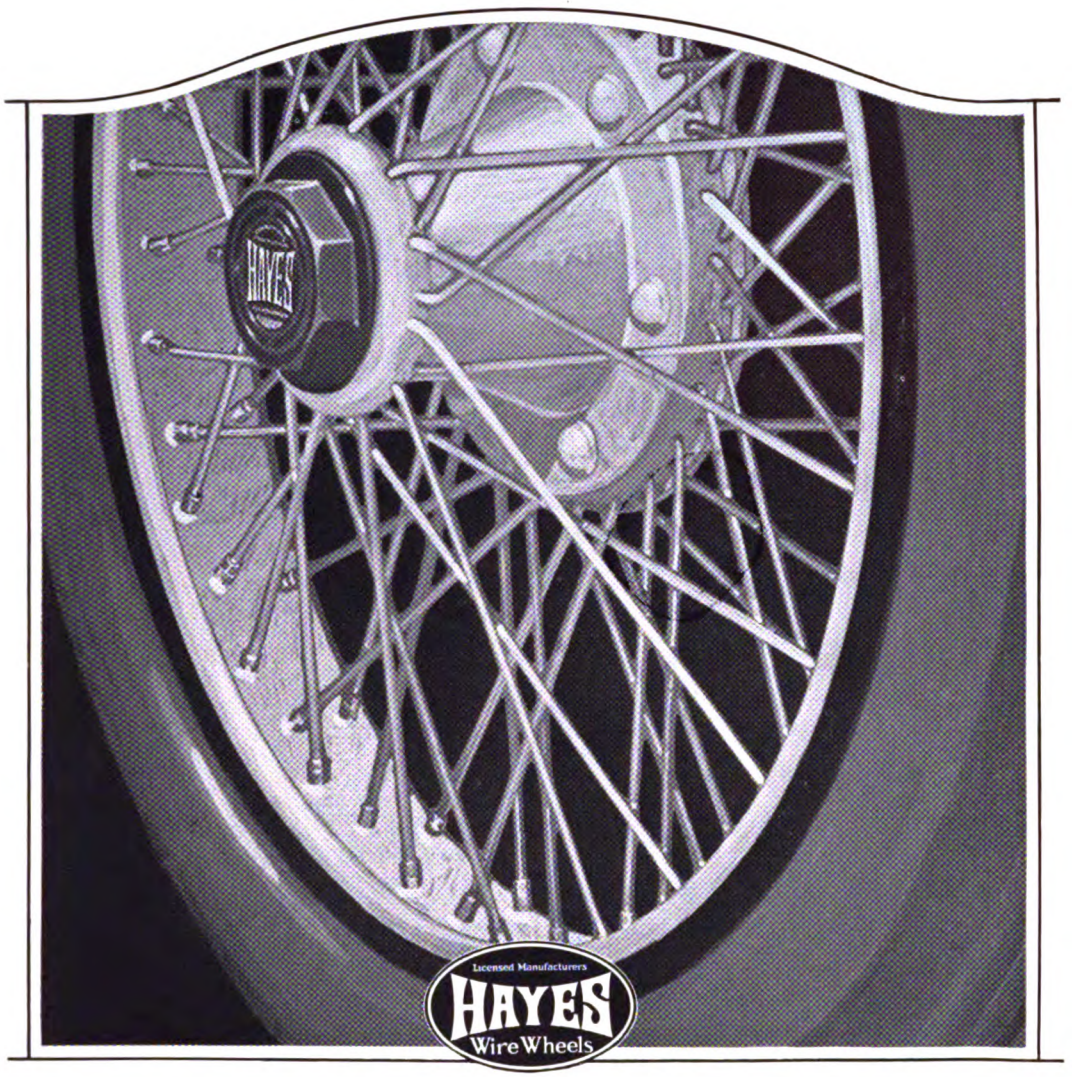
HAYES *wire wheels*



It is really but a step from the preference for wire wheels, now become so general, to the more decisive preference for the Hayes.

Makers and owners of higher priced cars first began to single out the Hayes, because of certain very definite superiorities. Now you see this wheel on cars of all types. Motor car manufacturers very evidently have convinced themselves of the great value of these unusual features.

Of those who use wire wheel equipment, the great majority regularly specify the Hayes.

Even casual observation in your own locality will reveal the breadth of preference for the Hayes.

The fact is that your own local conditions are really a reflection of the Hayes standing all over America.

Many owners will have their cars equipped with Hayes Wire Wheels during the period of winter lay-up or overhauling and painting.

Wire Wheel Division **Hayes Wheel Company** *Jackson, Michigan*

Sales and Service Stations

MOTOR PRODUCT SALES CO.,
806 E. Pike St. Seattle, Wash.

HAYES WIRE WHEEL SALES CORP.,
842 7th Ave and 146 W. 55th St., N. Y. C.

EVANS & LAWRIE CO.,
1090-2 Commonwealth Ave Boston

SAMUEL SCOTT,
2038 Ranstead St. Philadelphia, Pa.

BRIGMAN MOTOR COMPANY,
491 Whitehall St. Atlanta, Ga.

SIGGINS SALES COMPANY,
106-8 E. Milwaukee Ave. Detroit

MILLER & WOODWARD,
3751 Bigelow Blvd. Pittsburg, Pa.

CHICAGO WHEEL & RIM CO.,
2010-12 Wabash Ave. Chicago, Ill.

AUTO-MARINE SERVICE CO.,
1027 Nicollet Ave. Minneapolis, Minn.

INTERSTATE AUTO COMPANY,
206-8 E. Superior St. Duluth, Minn.

MOTORS, EQUIPMENT & TRACTOR CO.,
1310 S. Grand Ave. Los Angeles, Cal.

H. V. & C. H. CARTER,
724 Van Ness Ave. San Francisco, Cal.

AUTOMOTIVE SUPPLY COMPANY,
1558 Broadway Denver, Colo.

THE THREE CAPTAINS CO.,
700 S. Ervay St. Dallas, Texas

World's Largest Builders of Wheels—Wire, Wood, Steel

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BURRUD MOVING PICTURE OUTFIT ON A "LOCATION" HUNT IN THE MOUNTAIN COUNTRY OF WASHINGTON.

Motor Movie Expedition

Los Angeles Cinematist Secures Scenic Pictures Through Medium of Maxwell Goodrich-Equipped Motor Outfit

WITH a cargo of motion picture reels portraying the beauties of lakes, rivers and mountains of Washington and Oregon, Leland J. Burrud, scenic photographer, is home in Los Angeles. These pictures, it is believed, will go a long way toward increasing the interest of automobile tourists in the Western States.

So far, Mr. Burrud has completed twelve scenic pictures which will be released weekly under the title "Legends of the Wilderness," and will be shown before approximattly 10,000,000 people.

Among the first releases will be pictures of the Crater Lake region, Mt. Rainier and the Lake Chelan country. These will be followed by pictures dealing with the legends of Hayden Lake, Coeur d'Alene and other interesting parts of the Pacific Northwest. Had it not been for snows and unsettled weather conditions the crew would have made Glacier Park and Yellowstone. As it was, the cars were forced to undergo terrific strain.

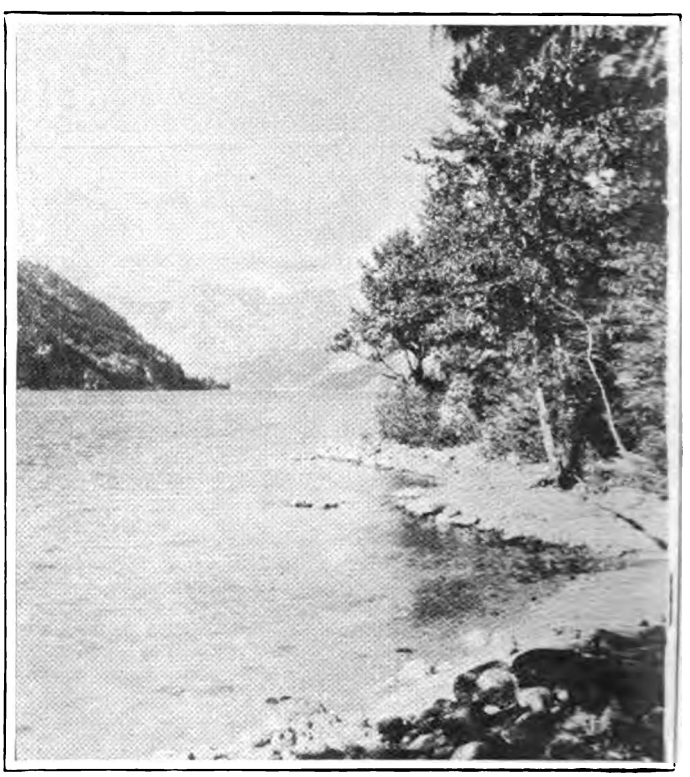
Two reels were taken of the famous Pendleton Round-Up, and the Los Angeles photographer displayed unusual skill in securing excellent close-ups and distant pictures of the cowboys performing unusual feats.

Mr. Burrud has a constructive imagination that reaches back into the ages, and is visualizing on the screen numerous Indian myths that have become a part of history.

Two Maxwell 1920 automobiles equipped with Goodrich tires supplied the transportation for the party; one a passenger car, and the other a specially designed conveyance similar to a delivery car for the camera, films and supplies. This car has a complete dark-room equipment and Mr. Burrud developed all of his films on the spot where they were taken.

For the most part the party followed untraveled trails. This was particularly true while on the way to Portland from Los Angeles. Between Dunsmuir and Sissons a great forest fire was devastating acres of the finest timber. Burrud, who co-operates with the forestry officials, happened along as water and provisions were being carried to the fire-fighters. The passenger car, which Mr. Burrud himself drove, was loaded with supplies and conveyed to the fighters. In order to reach the scene of action it was necessary to follow a little-used trail which soon came to an end. A faint Indian trail began at this point and extended on up to where the men were fighting the fire.

Rangers told the crew it would be impossible to drive any farther. As the men ahead were in great need of supplies Mr. Burrud pushed on. Some of the men followed with shovels, expecting to blaze a trail for the cars through the brush. The trail finally became dangerous. There were some remarkably rough and steep places which the car had to negotiate, and it was necessary to travel over hot cinders which were falling through the clouds of smoke. To turn back was impossible. After five miles of this strenuous exertion the crew arrived at the fire-fighters' camp. The rangers there were considerably



LAKE CHELAN ONE OF WASHINGTON'S BEAUTY SPOTS.

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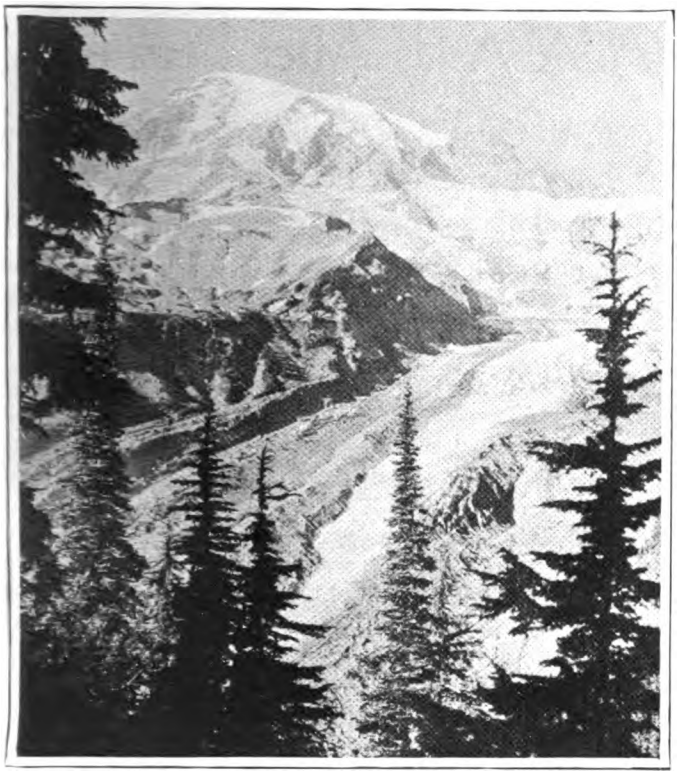


WONDERFUL MOUNT RAINIER AND THE NISQUALLY GLACIER.

astonished when they saw the car, and declared that it was a marvelous performance.

Some pictures were taken of the fire while in that vicinity and Mr. Burrud is planning to use them in "Legends of the Wilderness." A good story of Indian evil spirits raging through the woods, destroying the game with which the Indians were accustomed to fill their larders, will be the plot. Mr. Burrud states he hopes to represent the country in these pictures as historians imagine it appeared hundreds of years ago, and then as the spirits of the wilderness have moulded it into wonderful panoramas. In it all will be more or less of the Indian beliefs of conflicts between good and evil spirits, with the good spirits emerging victorious.

California will reap great benefits from the projection of these films in the thousands of national moving picture theaters. It is expected that this propaganda will divert hordes of travelers planning European tours to the western part of the United States.

Conspicuously displayed on Mr. Burrud's camera car is the simple yet impressive slogan, "Help Prevent Forest Fires." In all his tours Mr. Burrud emphasizes the great need of preserving the vast forests of the West. The last season witnessed the destruction of many thousand acres of timbered land.

Fire is not the only agency playing havoc with the big trees. Mercenary lumber firms are devastating the forests, destroying trees from 400 to 4000 years of age. Once these big trees are gone they never can be replaced, and it is Mr. Burrud's plan to impress this fact upon the thinking American public to such an extent that legislation will be enacted to prevent the further destruction of the forests, especially of the Sequoia or Redwood groves. California is the only place in the world where these trees grow.

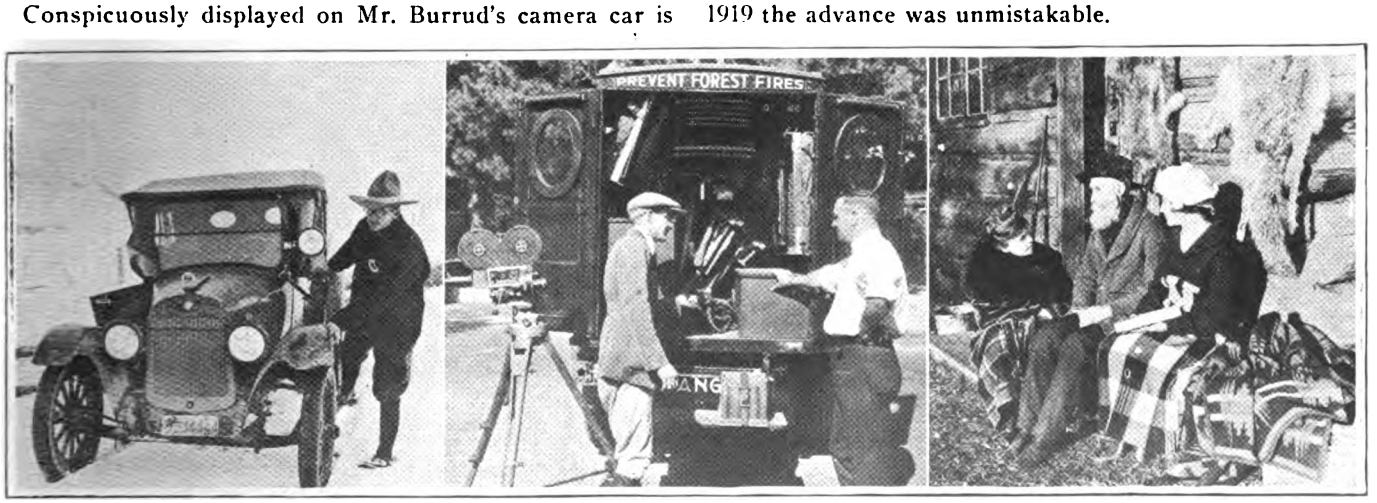
For the next two or three weeks the filming crew will be busy in Los Angeles preparing an itinerary of the several national parks, north rim of the Grand Canyon, Apache Trail, Casa Grande, Death Valley, Yosemite, Yellowstone, Mariposa Big Trees and other interesting scenic points.

California historians are aiding Mr. Burrud in seeking out the almost forgotten legends. Were it not for the enterprise of the heads of the film studio these legends probably would be lost to the coming generations. The scenic photographs will so forcibly portray them that they will be remembered by hundreds and thousands of people who will preserve them for all time.

Apparent Reasons for P ice Advances

As ownership of an automobile often is placed ahead of clear title to a home, and as a very large percentage of Liberty bonds used for their purchasing power have been put up for automobiles, speculation as to probable increases in prices has a very general interest. The Wall Street Journal has been delving into the subject. Its findings indicate that increases are certain, in view of rises in cost of manufacture, and that this will not be prevented by increased productions. Backing this view is the fact that even before the recent rise in the cost of steel and other materials, increases in prices occurred among leading, large-production manufacturers.

Eight makers, selected as representing various grades, are shown to have raised prices, the increases varying from $165 to $2850, from 1915 to 1919, inclusive, the average increase having been 51 per cent. From 1915 to 1917 the price movement was irregular, but from 1917 to 1919 the advance was unmistakable.



(LEFT TO RIGHT) L. J. BURRUD, WHO IS TOURING WEST TO SECURE SCENIC SERIALS. BURRUD AND MANAGER SPITZER INSPECTING EQUIPMENT. CINEMA GIRLS GETTING POINTERS FROM THE "OLDEST INHABITANT OF THESE PARTS."

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Foresees Shortage in 1920

T. J. Toner, Maxwell Director of Sales, Analyzes Car Situation for Benefit of "Motor West" Readers

DURING the year 1916-1917—the last of normal business—2,000,000 motor cars were made and sold by American manufacturers. This can safely be classed as the normal American demand. In 1917-1918 approximately 1,100,000 automobiles were produced, a shortage of 900,000. In 1918-1919 about 1,000,000—a shortage of 1,000,000, or a total of 1,900,000 that the market is short.

The best estimates place the 1920 production at not more than 1,750,000, and this is taking the most optimistic view of present labor conditions.

This would bring the total market shortage up to 2,150,000 by July 1, 1920, and it will be more acute next season, as the man who retained his old car for the past two seasons for reasons of thrift or inability to obtain a new one will be out in force.

Factories, that under Government orders had depleted their inventories almost to the vanishing point last January, have been unable to replenish them, in fact, today they are in about the same shape they were at that time. The demand of the past summer absorbed materials as fast as they could be machined and assembled—either in finished cars or repair parts.

Another condition, not generally known, faces us. That is the winter storage proposition. In past years it has been customary for the factory to store a few thousand cars to help out on the spring demand. Today it is almost impossible to find storage room in any city, and the railroad authorities have already placed an embargo on incoming freight in Detroit on account of the congestion due to the inability of consignees to find a place to store their merchandise.

However, it would not be possible to store cars if the space was available, as the export demand is such that it will absorb every car not immediately demanded for domestic use.

The foreign market has been without cars for four years. The European factories cannot supply one-quarter of their own demand—not alone export. Every day sees an influx of foreign buyers, and had we the cars we could book orders for immediate shipment that would far exceed the total we exported in any two years prior to the war. It will be impossible to build up reserves at the factory against the spring demand. Last spring we had 1,400 dealers to supply. Next spring we will have 3,000 outlets.

Figure it out for yourself.

As to prices, a casual analysis of the above conditions will convince anyone that if they change at all they will go higher.

The Bethlehem Motors Corp., of Allentown, Pa., will be able to increase its output to 8,000 Bethlehem trucks a year, as the result of new capital secured by the sale of 43,000 shares of stock, bringing in $1,000,000. Present production is between 3,500 and 4,500 trucks.

The Armleder Model HW truck, formerly rated as a 2-ton size, has been strengthened very considerably, and from now on it will be known as Model HW 2½-ton truck.

A.A.A. is After Profiteers

Conducts Campaign Against Unfair Charges for Repair and Service Work—Much Improvement Has Resulted

AN anti-profiteering campaign, in behalf of motorists directly and almost as directly in behalf of repair men and others complained about, has been conducted by the American Automobile Association locally in Washington, D. C., which city may be said to be practically headquarters for the association since national legislation affecting motoring has become lively. Chairman Batchelder of the association's executive board puts in much of his time there.

As a result of the campaign, in which no litigation was threatened, practically all repair shops and service stations have filled questionnaires, showing their methods and prices, which are on file at A.A.A. headquarters for motorists' examination.

Requests for complaints brought countless personal calls and 1,214 letters, containing either complaints or commendations. The number of the latter was surprising and gratifying. In case of complaint, experts in overalls investigate the shops, and in every case settlement was made satisfactory to all concerned. Though not asked to do so, a number of shops reduced their hour price from $1.50 to $1.25, or from $1.25 to $1. Many instances of excessive time charges, intentional or due to careless switching from one job to another, were basically corrected. Systems to make better business men of the shop men were suggested and adopted. Less complaint was lodged against shops maintained by automobile companies than independent ones. Of 31 establishments investigated, 11 were exonerated.

Newspapers co-operated, and many shop men voluntarily came to A.A.A. headquarters for guidance. With questionnaires on file, if new complaints are made and found valid, court procedure is contemplated.

"Fighting the Flying Circus"

"Fighting the Flying Circus" is the interest-gripping story of the events that befell Captain Edward V. Rickenbacher, commanding officer, 94th pursuit squadron, United States air service, and which made him twice-famous as the American ace of aces. "Rick" tells his story with a directness, a lack of effort to thrill, that often causes the reader to forget the seemingly fragile craft in which American and foeman faced certain death in the fight for air mastery in the stirring days of 1918.

The 94th pursuit squadron is always before the reader's consciousness and "Rick" deals with aerial battle and formation tactics and his own personal exploits with the same directness and pithiness as he would use to describe an automobile race.

Hood to Manufacture Trucks

Wallace C. Hood, general sales manager of the Standard Motor Truck Co., of Detroit, has resigned and will enter business for himself as manufacturer of a complete line of motor trucks.

The H. J. Koehler Motors Corp., of Newark, N. J., will occupy its new plant at Bloomfield, near by, about Feb. 1. After that national distribution of the new Koehler truck, designed by Carl D. Peterson, will begin in force.

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Building Good Roads Right

Expenditures for Highway Improvement Should Be Placed in the Hands of Experienced Men, Says Dort Official

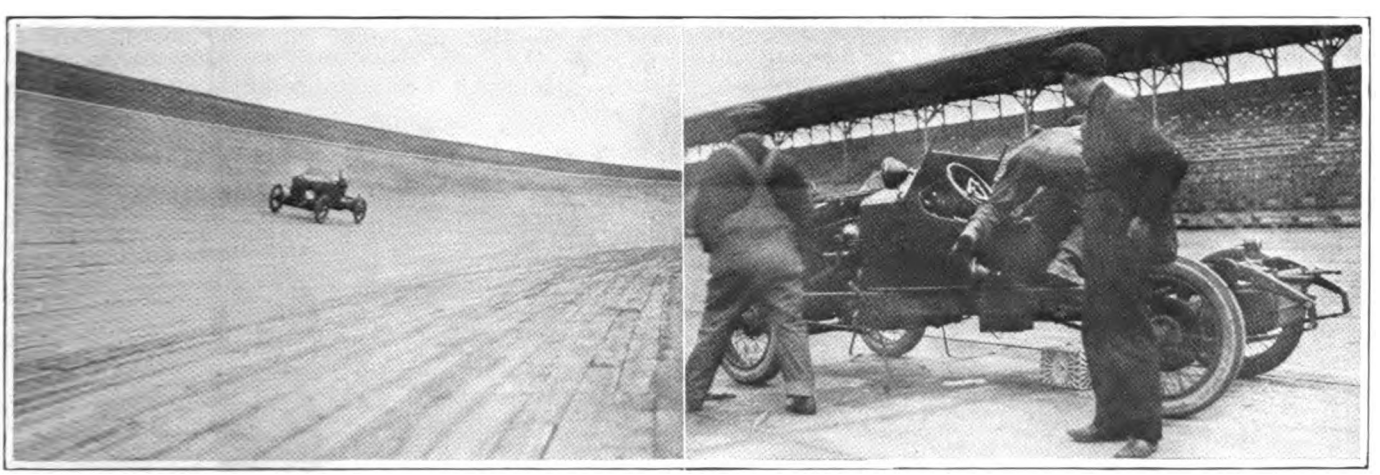
ACCORDING to H. S. Daniels, advertising manager of the Dort Motor Car Co., while everybody is talking good roads, we have lost track of one highly important feature, and that is the placing of the vast expenditure of our good roads money in the hands of experienced road builders, men who are thoroughly familiar with good roads requirements.

A road that is built today and lasts but a few years is a very poor investment. It means that taxation will be continuously imposed upon the public in order to keep these roads in repair, and in the end they will cost us more than an efficient road-making program would cost.

What we want primarily are men who have spent their lives in good-road building. We do not want promotors, who see a vast opportunity for making huge profits in the expenditure of the people's money, but we do want these huge sums in the hands of companies who have good-roads experience and who have shown their capabilities through their road building of the past.

Those who have had much to do with highways know that the highway engineer must be a trained man, as well as any other engineer. He must be able to locate roads properly; must know all about materials which have to go into the roads in order to make them stand up; must be somewhat of a financier in order to expend the money wisely, but above all he should know the type of road which is best suited through the country where the road is built.

A concrete road is the most expensive and has the longest life. However, concrete roads are not necessary everywhere—that is to say, where traffic is not heavy and is confined to only certain periods of the season. It follows, therefore, that in a country of this description a concrete road would not be necessary, and could be supplanted by a less expensive method of road building. This all comes under the observation of the highway engineer and is just one reason why we should have experienced men in these executive positions that call for the laying-out of the good-roads program. Put this matter up to the men who are experienced road builders and we will be rewarded with having excellent roads for many years to come.



ESSEX ESTABLISHING WORLD'S LONG-DISTANCE ENDURANCE MARK ON THE CINCINNATI SPEEDWAY.

Battling against a temperature which most of the time was below freezing, the Essex stock chassis which recently set a new world's mark at the Cincinnati Speedway not only covered 3037 miles in 50 hours, but it also actually traveled a distance of 5870 miles in 94 hours and 22 minutes driving time. In the first official test ever made of a car driven at top speed for 50 hours, a blinding snowstorm forced the car to stop at the end of 27 hours and 58 minutes in the 1790th mile. A second start was made three days later, but this time a pouring rain caused A.A.A. officials again to stop the car after it had run 16 hours and 25 minutes, when it had covered 1042 miles. The next day the weather cleared, another start was made and a 50-hour period completed.

Thus, to complete its 50-hour achievement, the car covered at a speed of more than 60 miles an hour a distance greater than that traveled by the average automobile in a year's time. The speed maintained throughout the run is equaled only by the fastest express trains and then only for short stretches. The Essex used was strictly a stock chassis under the constant observation of the American Automobile Association. The car, which was driven by Dave Lewis and Tommy Milton, the noted racing drivers, and De Lloyd Thompson, working in shifts of six hours, was equipped with Goodyear cord tires.

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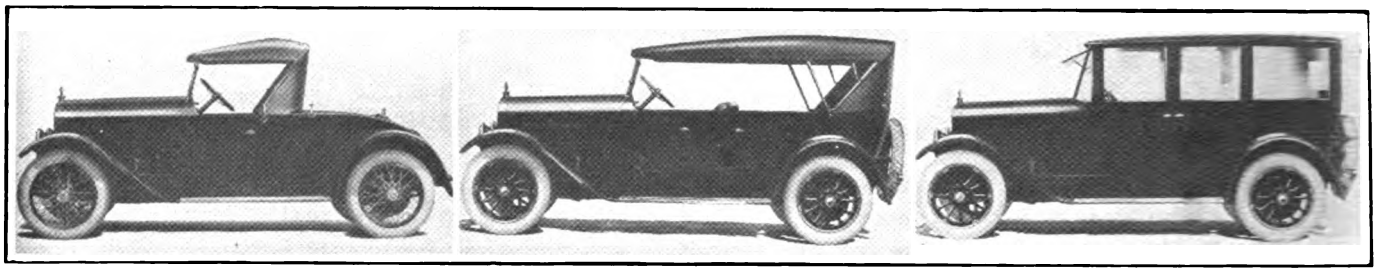


KING 1920 ROAD-KING. KING 1920 TOURING CAR. KING 1920 LIMOUDAN.

Many Changes in King Line

Numerous Refinements and Improvements Pointed Out in the 1920 Models—Comfort and Luxury Secured.

IMPROVEMENTS and refinements are so numerous in the 1920 line of King cars that the makers, the King Motor Car Co., Detroit, have issued a list of one hundred items wherein betterments of varying degree, as compared with the 1919 line, are set forth. These betterments are not alone in small items which make for comfort of passengers and the appearance of the car, but they include changes which will add to the longevity of the mechanical parts and the general sturdiness of the entire construction.

While we do not intend to dwell at undue length upon the mechanical changes for the better in the 1920 King line, attention should be called to the fact that the spring equipment throughout is longer and stronger than in the 1919 line. The rear axle is heavier, and the braking surface is greater. There is an extra large and strong cross member at the back of the frame, which strengthens the rear end and permits attaching the new tire carrier and bracket to it, the shape of the new cross member being such that it forms a protection for the gas tank and securely ties the rear end of the rear fenders. The Alemite lubricating system is used throughout the car, making the lubrication of the car a much easier, quicker and completer job than with the old style system.

No fewer than 17 improvements are made in the 1920 motor, among them: Water inlets on side of each cylinder block instead of at front end, thus insuring more uniform cooling; new oil regulator which screws into the crankcase at the same point as the present adjustment nut; new intake and exhaust manifolds; new clutch with new throw-out arrangement to insure easy changes; longer hand-brake and gear-shift levers; improved oil level gauge in crankcase, etc.

The 1920 King radiator, because of larger front area, has a 30 per cent greater cooling capacity than the old style. The hood is higher and wider at the body line; head and tail lights are new and better; fenders are heavier, of crown type in all models.

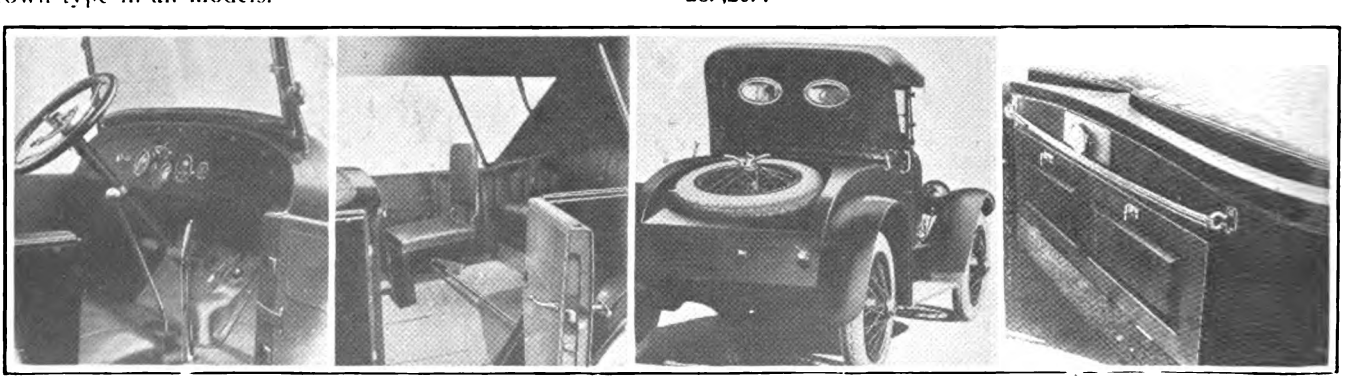
Among the equipment changes are to be noted a new tire carrier, of ample strength to carry two tires and so constructed that mounting for wire, wood or disc wheels can be easily attached. Wire wheels are standard on the Road-King and Foursome models, while wood wheels are indicated on the Touring Car and the Limoudan—the four body styles which constitute the King 1920 line.

A large compartment back of the front seat of the Foursome replaces the former small compartments. The dome light in the Limoudan may be operated either from the driver's or the passengers' compartment, and this model also boasts a dictagraph, vanity case and a lever device for raising and lowering windows. All models have eight-day clocks, motor-driven Sparton horn signals and Van Sicklen Speedmeters as standard equipment.

The Touring and Foursome bodies are radical departures from former styles, presenting to the eye a gracefully molded line from the top of the radiator to the rear of the car. The Limoudan—so-called because it combines the features of both sedan and limousine, and may be driven by owner or chauffeur—has the smooth unbroken line from radiator to rear end. The Road-King, admittedly one of the best-looking two-passenger jobs on the market, has undergone some improvements to make it conform with the Touring and Foursome designs. The Road-King luggage compartment is roomier and the doors open from the side instead of at the bottom.

There are sloping windshields on all models, with hand adjusting nuts to regulate tension or position of each section. There is a new instrument board of heavy steel stamping finished in mahogany. A panel in the center carrying light switches, ignition lock, ammeter and dash light is hinged at bottom and Yale locked at top, this arrangement making the electrical connections inaccessible except to the person carrying the proper key. Front storm curtains on all open bodies fasten to the front side of the windshield stanchions and seal the opening between the window sections and the stanchions. The removable floor board is provided with spring catch and ring pull, and the tire pump floor box cover is so designed and located to act as a heel rest when the driver's foot is on the accelerator.

It is estimated that in the United States the proportion of persons to one automobile is 18; in Canada, 25; Australia, 100; England, 268; Argentina, 391; Uruguay, 402; Italy, 1002; Chile, 1200; Brazil, 1843; Mexico, 2385; China, 267,207.



SOME KING 1920 REFINEMENTS (Left to right)—Long gear-shift and emergency-brake levers. Extra seating arrangement in touring car. How spare tire is carried on Road-King. Large luggage compartment back of front seat.

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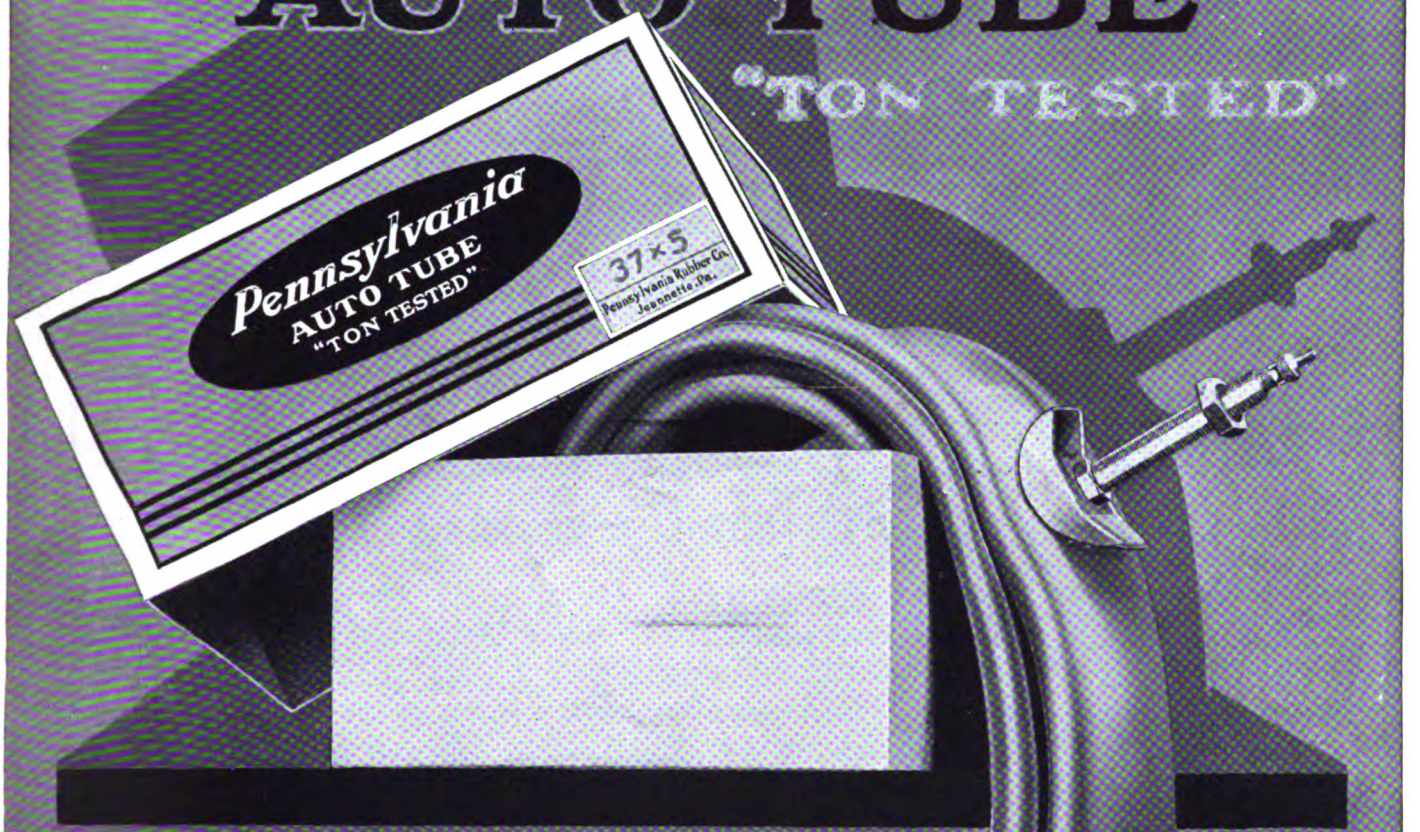
Pennsylvania AUTO TUBE

"TON TESTED"



A PENNSYLVANIA franchise naturally results in business permanency and more than ordinary profitableness.

It yields an individuality to the dealer fortunate enough to secure it—a distinction of handling products of nationally recognized quality prestige.

The 1920 schedule contemplates for desirable dealers the reasonable profit they must have to maintain the high standard of service demanded under the Pennsylvania Selling Plan.

The details of this plan will be promptly sent you on request. You are urged to get in touch with us at once, however. Territory is now being allotted under our 1920 contract arrangements and early application for franchise is advisable.

Makers of Vacuum Cup Fabric and Cord Tires

PENNSYLVANIA RUBBER COMPANY, Jeannette, Pa.

Export Dept., Woolworth Building, New York City, N. Y.
Direct Factory Branches and Service Agencies Throughout the United States & Canada

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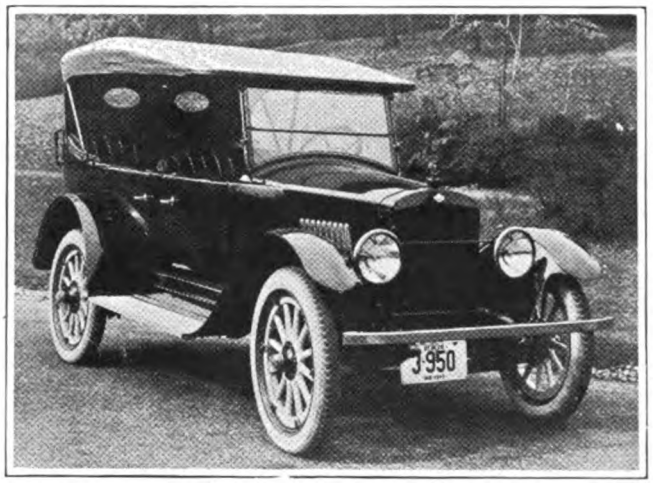


HERE IS THE NEW ALLEN 43 TOURING CAR.

The Allen Motor Co., Columbus, O., announces this new model, which, as may be seen from the illustration, is a very nifty looking job. It is listed at $1395 factory, and in design, materials and equipment it is the peer of any car on the market in its class.

How to Distill Water for Battery

Distilled water, necessary for storage batteries, but not always easily obtained, can be made simply. Have a length of annealed copper tubing coiled, so that it will fit in a dishpan. Connect the end of the copper tubing with an ordinary teakettle by means of a short piece of rubber tubing. The other end of the tube is curved so that the water passing down will drip into a bottle, or other container. The dishpan in which the coil rests is filled with cold water, frequently renewed to keep it cold. The water in the teakettle is boiled and the steam so produced passes out of the spout into the tube, through the coil, where it is cooled and condensed back into water again, and is finally collected for use in the bottle at the end of the copper tube.

How Quickly Your Car Should Stop

If brakes are right, a machine going 10 miles per hour should be stopped in 9.2 feet; 15 miles, 20.8 feet; 20 miles, 37 feet; 25 miles, 52 feet; 30 miles, 83.3 feet; 35 miles, 113 feet; 40 miles, 148 feet; 50 miles, 231 feet.

A review of the twelve important automobile racing events of 1919 show that each race was won by a car wearing Goodyear cord tires. Many speed records were broken during the season that has just passed.

So Far, We Have Copied Europe

When one is in a hurry he grabs things and runs. That is what the United States has done, in producing automobiles. That it has made a very good job of it is freely admitted, as well as that it had greatly improved, in many instances, the design and efficiency of what it has grabbed.

Yet, credit where credit is due—this suggestion from no less capable an American designer than D. McCall White, who was responsible for the Cadillac Eight and is vice-president of the new Lafayette Motors Co., Indianapolis. He points out that, having smaller production and therefore more time, Europeans have had more time to invent essentials.

The first six-cylinder car, for example, was produced by Napier in England; the first eight by De Dion in France; and the first successful twelve by Sunbeam in England. Back in 1906, they were experimenting with high-speed motors in the Daimler factory, increasing the engine revolution from 800 to 1600 in one test model that was built that year.

To Re-Time the Magneto

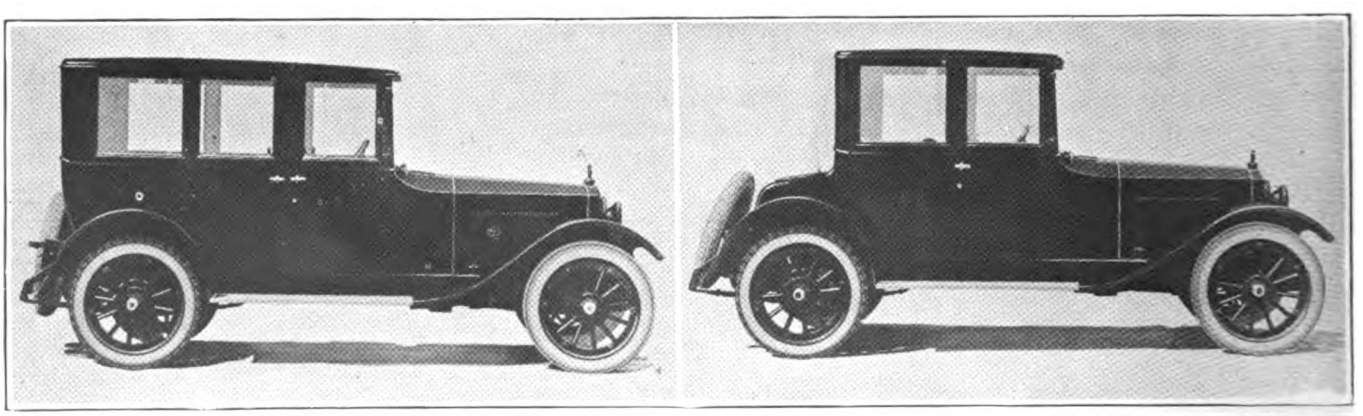
When overhauling an engine it is frequently necessary to re-time the magneto. Go at it this way:

1. Place the crank for cylinder No. 1 on the dead center with the piston on compression.
2. Put the circuit breaker in full retard position and rotate the magneto until the distributor registers for No. 1 cylinder.
3. Rotate the magneto shaft until the circuit breaker starts to separate the points. This is the firing point; you can now connect the magneto coupling.
4. Connect the remaining spark plugs in the regular order of firing. On four-cylinder engines this is usually 1-2-4-3, always counting from the clutch side of the engine.

An Average Car at An Average Price

Recently a large banking house in New York City made a survey of automobile owners in an effort to determine the average-sized car and the average price paid by the average American family. Thousands of motor car owners from every walk of life were included, and when the record was tabulated it was found that the average-sized car in this country was a five-passenger machine with a 105-inch wheelbase at an average price of $994.98.

H. S. Daniels, advertising manager of the Dort Motor Car Co., Flint, Mich., calls attention to a remarkable coincidence in that the Dort is a five-passenger car, with a 105-inch wheelbase, and is listed at $985. He points out, too, that statistics recently printed by the N.A.C.C. verify the figures of the New York bank.



GRANT OFFERS TWO ENCLOSED MODELS, SEDAN AND COUPE, WHICH ARE ROOMY, COMFORTABLE AND WELL DESIGNED.

Two well-balanced, roomy, comfortable and artistically designed enclosed models are offered by the Grant Motor Car Corporation, Cleveland, O., in the Sedan and Coupe. The Sedan has four doors and seats five passengers comfortably. The Coupe seats three passengers, with an auxiliary seat for a fourth person. On both cars the doors open full way, giving ample room for entrance and exit. The bodies are the work of a master body builder and the interiors are beautifully and durably finished.

Special attention has been given to the balance of these models so that the weight is evenly distributed making the car hold to the road and affording the maximum comfort for passengers. Easy-riding qualities are further enhanced by the Grant's spring suspension. These springs, which have exceptionally large shackles, are the longest ever used by a car of the Grant's wheelbase. Windows are raised or lowered by means of a ratchet within easy reach. Electric lights are located in the cowl at either side of both Sedan and Coupe, and a ventilator is provided between the lights. Both Grant enclosed models are equipped with interior heaters of latest design, and standard equipment includes Boyce Motometer and Kellogg power tire pump. The price of either model is $2450.

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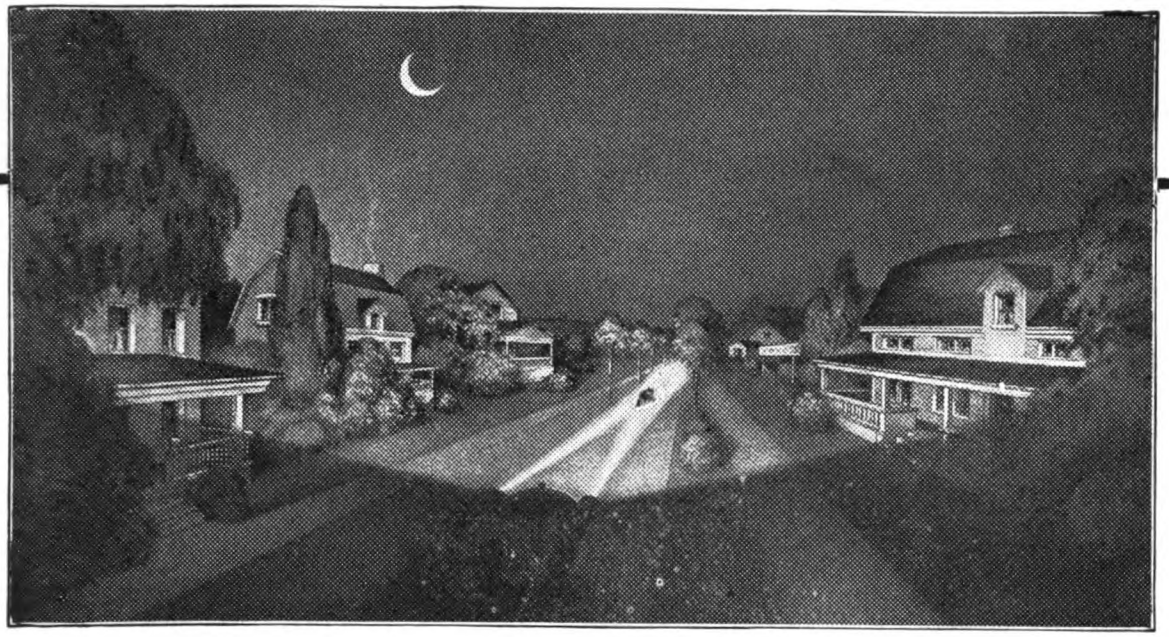


Safely and Legally Dimmed

Yet Giving a Better Driving Light

THE North Star Glare Shield throws a light for a distance of 150 to 200 feet each side of the road, almost at a right angle with the front of the car. This enables the driver to see dangerous obstacles, curves or turns of the road, to read direction sign-posts without the aid of a spot light and without stopping the car. Its penetrating power is wonderful against approaching lights or through fog.

North Star Glare Shield

Gives more light and a safer light, any way you look at it—in front—behind or at the side.

Dims only that part of the light which glares in the face of an approaching driver, allowing the rays from the sides of the reflector to pass through unobstructed and without glare. **Complies with State Laws and Local Ordinances.**

Our Guarantee—The North Star Glare Shield carries our ten day guarantee; your money refunded if not entirely satisfactory.

Easily Attached—The North Star Glare Shield is made in five sizes and will fit any headlight. Nothing complicated—nothing to to get out of order. **Now being used on Police and Government cars.**

Before Attaching

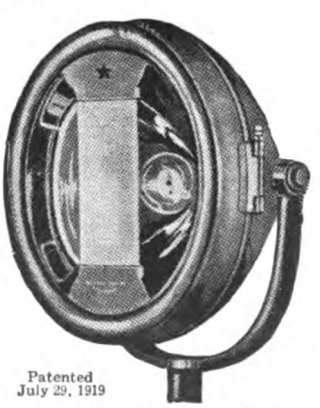
Ask for descriptive circular—Try a Set—
Experience real pleasure in night driving.

For Sale by Dealers Everywhere

State Distributors Wanted
Attractive opportunities for live men.
Send for details and full information.

S. & M. Manufacturing Co.

2332 So. Michigan Ave., Chicago, Ill.



Patented July 29, 1919

How It Looks When Adjusted

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The Car of Commerce

"Feed Fodder to Locomotives"

Nevada Attorney Flays Railroad Company for Its Archaic Contention Against Issuing Motor Truck Permits

RAILROAD companies, increasingly, are "coming around" to the automobile and motor truck; even to operating them in competition with their rail lines or as feeders; but occasionally they show a human but archaic resentment, and show it by restricting shipment of automobiles and motor trucks and by fighting them legally as competitors.

After seeking vainly to get better railroad service, the people of Gardnerville and surrounding territory, in Nevada, induced Ginnochio Brothers to start a motor truck line. The entire Carson Valley has benefited during three years. Freight is taken from and to merchants' doors.

A Nevada law, effective April 1, 1919, requires application for hauling certificates. Ginnochio Brothers applied. The Virginia and Truckee Railway Co. objected in court, saying their business would be hurt. One of its contentions is that the truck company should be forced to the expense of establishing a central freight and passenger station. Attorney George A. Montrose declares:

"As well might the teamsters of the age that is gone ask that the railroads be compelled to feed their motor power hay and grain and the conductor urge the train to greater speed with the 'blacksnake.' The day has changed and perhaps ere many years have passed the airplane will supersede the motor truck as the motor truck has succeeded the railroad and the railroad has superseded the wagon train. Each is playing and has played its part in life. From one which is now departing comes the 'swan song,' while from the one that comes to take its place is heard the song of joy that tells of life, of progress and a better day."

U. S. Motor Truck Co. Improves Engine Speed

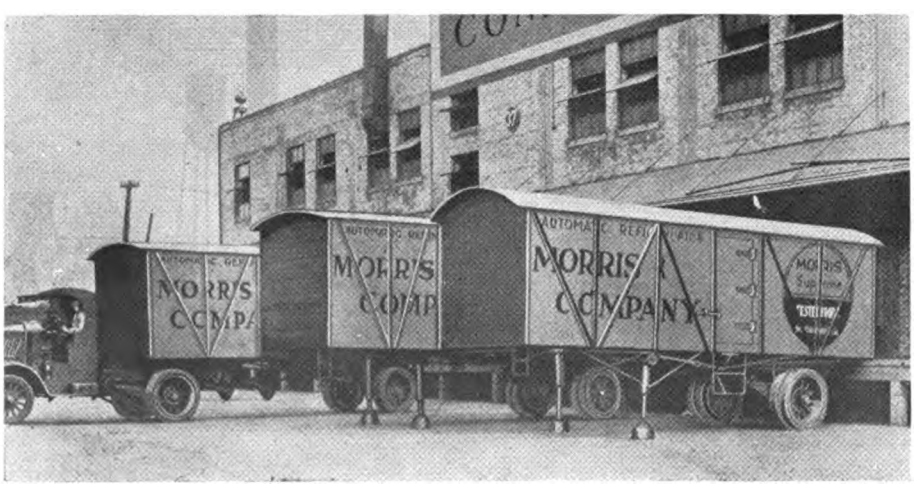
With the increasing use of pneumatic tires on motor trucks, E. C. Shumard, chief engineer of the United States Motor Truck Co., has realized the necessity of building trucks to meet the changing conditions, and is at work accordingly. The greater speed of pneumatic-tired trucks, and the possibility of sustained speed for long distances, have required changes in the construction of the engine, all of which have been taken care of in the manufacture of engines for the United States Motor Truck Co. Many other changes will be found in the 1920 line of the United States company when announced.

Promotions in Republic Organization

The Republic Motor Truck Co., Inc., Alma, Mich., announces the appointment of O. W. Hayes as general manager, and Thos. M. House as general sales manager. Both of these men have been connected with the Republic company almost from its beginning, Mr. House having been Pacific Coast sales manager. The promotion of these men was prompted by their thorough understanding of the business and their appreciation of the problems which confront the largest motor truck sales organization in the industry.

Heaslet Heads Signal Truck

James G. Heaslet has been elected president of the Signal Motor Truck Co., of Detroit. He is one of the industry's pioneers, being connected with the Autocar in Philadelphia back in 1897, later with Garford and Studebaker. During the war he had full charge of Liberty motor production.



HOW A NATIONALLY KNOWN PACKING HOUSE SOLVED ITS CHICAGO HAULING PROBLEM.

Morris & Co., Chicago, have been grappling with freight congestion and high costs of rail haulage, and believe they have solved the way to relieve their condition. They are using a tractor-trailer, as shown in the illustration. The company had refrigerator bodies built by the National Refrigerator Car Co. and bought a Mack chain-driven tractor of 15 tons capacity. These semi-trailer bodies are heavily insulated throughout with cork. The length is 45 feet; height, 11 feet 3 inches; width, 7½ feet, and each body has a large door on each side and one in the rear. All beef is suspended from the ceiling of the bodies. Each semi-trailer is demountable from the fifth wheel of the tractor and can be detached by two men in three minutes, through the medium of two powerful jacks permanently affixed to each trailer body. This detachable feature enables the one Mack tractor to keep on the road continuously by handling the three semi-trailers alternately.

Regarding the proven efficiency of the insulation, the dressed beef is loaded at a temperature of 35 degrees above zero, and even though it may be held in transit three or four hours there is no perceptible rise shown by the thermometer suspended from the ceiling of the body, and the meat arrives at its destination, at some one of its ten cooling stations in Chicago, in perfect condition. This system brings the cost down to 6 cents per [illegible] pounds, and the one tractor with its three semi-trailers transport as high as 180 tons in 24 hours—while under the old system of shipping by [illegible]t averaged from 12 to 14 cents per 100 pounds.

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Commerce TRUCKS

They Make Good On Any Job

—*Commerce Owners Will Tell You That*

A truck built of the stuff Commerce is made of could not fail to make good, ***and they have for ten years.***

Every vital part of the Commerce Truck is made by a specialist with a national reputation for a high grade product.

Check this list of units possessing unquestionable performance records—more than can be found in any other make of truck built.

Continental Red Seal Motor
Torbensen Rear Axle with Timken Bearings
Detroit Gear Co.'s Transmission
Highland Commercial Bodies
Detroit Steel Products Springs
Eisemann Magneto and Impulse Starter
Spicer Universal Joints
Willard Storage Battery
Zenith Carburetor
Stewart Vacuum System
Jacox Steering Gear
Bijur Electric Generator
Commerce Own Design Radiator
Champion Spark Plugs

The COMMERCE MOTOR CAR CO.

DETROIT :: MICHIGAN

FREEMAN A. McKENZIE,
CITY GARAGE, INC.,
1205 South Olive St., Los Angeles, Cal.

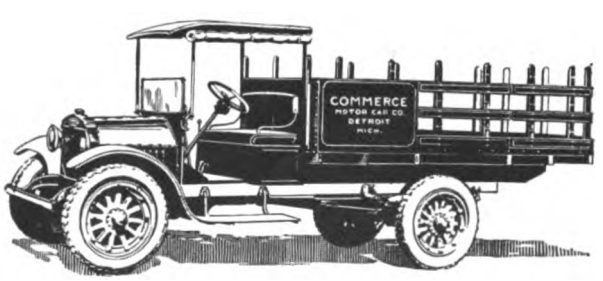
McCRACKEN MOTOR CO.,
Portland, Ore.

COMMERCIAL MOTORS CO.,
Seattle, Wash.

C. P. KIEL,
1830 Van Ness Ave., San Francisco, Cal.

SULLIVAN TAYLOR MOTORS, LTD.,
1260 Granville St., Vancouver, B. C.

W. B. WOOD,
Pacific Coast District Manager,
1205 South Olive St., Los Angeles, Cal.



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Trailer Lack Costs Money

Perry Says It Means Half-Billion Yearly Loss Not to Utilize Truck Power to Fullest Capacity

MORE than half a billion dollars a year is being spent unnecessarily in the United States for road haulage by motor truck, according to a calculation made by H. W. Perry, manager of the Trailer Manufacturers' Association of America.

Basing his estimates on registrations in the various states, which show more than 600,000 motor trucks in use, and assuming the average capacity of these trucks to be 2 tons and the average mileage traveled by them per day to be 50 miles, it is found that they have a daily capacity of 60,000,000 ton-miles—that is, they could haul 2 tons 30,000,000 miles in one day. But the average truck or delivery wagon travels empty half its daily mileage, on its return trip. On many trips it is not loaded to capacity, but on the other hand, it is overloaded frequently, and the average capacity of the vehicles in service undoubtedly is more than two tons. So an estimate of 30,000,000 ton-miles daily is a fair approximation of the work actually done.

There are 300 working days per year, but nearly all trucks are laid up part of the time for repairs, overhauling and painting. Some are operated on holidays and Sundays. An estimate of 265 days' service each per year is believed conservative. Multiplying the 30,000,000 ton-miles daily service by 265, gives a total annual service of 7,950,000,000 ton-miles rendered by the 600,000 trucks.

The cost of operating trucks varies with the size of the trucks and operating conditions. It runs, roughly, from about $10 a day for a 1-ton truck to $20 or $25 for a 5-ton truck. Based on numerous records of actual operating costs, it is calculated that the cost of haulage by 1-ton truck is about 40 cents per ton-mile, by a 2-ton truck about 25 cents, by a 3-ton or 3½-ton truck about 20 cents and by a 5-ton truck about 15 cents. The greatest number of trucks in use are of 1- to 3½-tons capacity; therefore, 23 cents per ton-mile is taken as a fair average of the cost of haulage by truck. At this rate the total cost of the 7,950,000,000 ton-miles service is $1,828,500,000 a year.

Tables of operating costs of trailers and semi-trailers as compiled by leading trailer manufacturers from their own experience and that of users, show the cost to vary from about 3½ cents to 6½ cents per ton-mile, according to type and size of trailer. This indicates 5 cents as an average, or less than one-quarter that of truck haulage; but trailer manufacturers and users generally claim a saving of one-half or more in hauling cost with trailers as compared with motor trucks. To be conservative and well within the probability, an average of 10 cents per ton-mile, or double the estimates of trailer manufacturers, is taken as the basis cost of haulage with trailers and semi-trailers.

Trailers cannot be used except with motor trucks or passenger automobiles to draw them, and usually only one is used at a time with a motor vehicle. If every motor truck were to draw one trailer or semi-trailer of the same load capacity as the truck, half the total tonnage would be carried on trailers. In practice, a ton semi-trailer is used with a 1-ton truck and a 12 or 15-ton semi-trailer with a 5-ton truck. Sometimes two four-wheel trailers are hauled by a motor truck. Thus, three times the load capacity of the truck itself is hauled at one trip. But, again to be conservative and on the safe side, it is assumed that only one-half the total annual ton-mileage, or 3,975,000,000, could be carried on trailers. Taking the average ton-mile cost by truck as 23 cents and by trailer as 10 cents, there would be a saving of 13 cents per ton-mile. This, multiplied by 3,975,000,000 gives $516,750,000 as the reduction in the annual bill of the nation for motor haulage that could be realized by the universal use of trailers and semi-trailers with the motor trucks in operation today.

If the cost of haulage by highway at distances of more than about 50 miles is to be reduced materially and put on a competitive basis with other means of transportation, it is held by Mr. Perry that the use of trailers offers the only solution in sight.

2,500,000 FARMERS NEED TRUCKS.

Statistics have it that there are about 6,000,000 farmers in the United States, of which number about 2,500,000 may be considered possible owners of motor trucks in the future. Should one-tenth of these, or 250,000, buy trucks during 1920, it would mean that each American motor truck manufacturer would sell 1,250 trucks. The makers expect to sell more than this number of trucks apiece.

California Ranches Well Motorized

One San Francisco distributor estimates that the number of California ranches or farms from which hauling of products is done by motor trucks has reached 85 per cent of the total, and that 65 per cent of all acreage farmed in the state is cultivated by gasoline or steam-propelled tractors.

An example of motor truck efficiency in Contra Costa county is related. A 1½-ton Maxwell with hay loader attachment makes three trips from the field to the stack, carrying a 2-ton load and harvesting a 40-acre plot in one-third the time formerly required by two teams. Besides hauling all his hay and grain by motor truck, this rancher also finds it the cheapest way to get his live stock to market. Before getting the truck he made no effort to sell his products in the city because the cost, including time—a whole day—when using a team, exceeded any profit. In addition to meeting his own needs, he uses the truck two days a week for neighbors who have not yet motorized their farms.

The cost of his truck has been almost paid for by his increased sale of products, the truck making three round trips in the same time formerly needed for one round trip by team.

"Economy" Proves True to its Name

An incident of the perishing of two aviators in Lower California, recently, proved the economy of power possessed by the Economy motor truck. A huge Hispano-Suiza airplane, searching for the lost men, had to be abandoned. Its occupants walked 25 miles to San Felipe, a fishing village, and a Mexican farmer drove them 173 miles to the United States. A powerful army motor truck, sent for the abandoned plane, failed. An Oldsmobile Economy truck succeeded. It was owned by Manuel Solorzano, of Calexico. He had used it for hauling canteloupes from far below the border and knew the country well. Lieutenant Perrin accompanied him. Loaded with two 50-gallon barrels of water, 50 gallons of gasoline, and provisions, tools, bedding, etc., they set out, the total weight of truck and load being 2,500 pounds.

It was truly a desert trip, impossible of appreciation by those unfamiliar with it—a three-day battle to reach San Felipe, at an average of six miles per hour. The plane was located, the wings removed, the plane lashed tail foremost to the Oldsmobile, and, though two trails had to be broken through the sand owing to the plane's "tread" greatly exceeding that of the truck, the outfit reached Calexico in four days.

Expansion in White Truck

The White Co., of Cleveland, manufacturer of White trucks, is discussing plans for large-scale expansion, among which is the increasing of capital stock from $20,000,000 to $25,000,000. Fifty White trucks are now being built a day and new buildings will soon make possible an output of 15,000 a year.

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Wilson
dependable MOTOR TRUCKS

"No Changes Necessary"

Now that the War Department is disposing of surplus army equipment, we wish to inform all Wilson dealers and the motor truck trade generally that any Wilson trucks offered for sale by the Department are *Standard Wilson Design.* ¶When these trucks were purchased for war service a commission of engineers inspected Wilson trucks at the factory and recommended them for use by the Department without change in design. ¶For this reason if a second-hand Wilson truck should come into your place of business for repairs or adjustment, you can figure on it as regular equipment. It is not a "special," and therefore there is nothing of the "orphan" about it. ¶Wilson dealers are authorized and able to render just as efficient service on these army trucks as on any Wilsons sold through commercial channels.

1½, 2½, 3½ and 5 tons Capacity---All Worm Drive

J. C. WILSON COMPANY
DETROIT, U. S. A.

36th Year

COMMERCIAL VEHICLE MANUFACTURERS

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Ready for the Body; Not an Extra to Buy

Gramm-Bernstein savings begin even before the truck is put to work. They actually begin with the very purchase of the chassis.

For it is sold completely equipped and ready for the body.

There is literally not an extra to buy.

Gramm-Bernstein Trucks carry, as standard equipment, $500 to $550 worth of accessories, according to type and size.

This equipment is all essential to truck operation. Any truck must have it. Ordinarily, it is paid for, over and above the chassis price.

Nothing of the sort with Gramm-Bernstein. It is complete and ready for the body needed in the work it is to do. In this, as in the industry itself, and in most of its forward steps, B. A. Gramm has led the way.

Gramm-Bernstein Trucks today have behind them something even greater than almost 20 years of truck building and inventive experience.

They have an honorable record of performance and economy—of high duty and low cost.

They are so firmly entrenched that Gramm-Bernstein owners invariably add a Gramm-Bernstein when they need another truck.

Gramm-Bernstein reliability, willingness to work, and extraordinary long life, are almost proverbial among business men who have experienced them.

Any comparison of work done, on a cost-mile basis of operation and maintenance, will demonstrate the greater economy of Gramm-Bernstein.

Any comparison of truck experience, truck units and truck equipment will demonstrate the greater value of Gramm-Bernstein.

Any Gramm-Bernstein dealer will be glad to advise with you.

"Extras" are Standard on G-B Worm Drive Chasses

Standard Gramm-Bernstein cab, with doors and storm curtains.

Exceptionally rugged metal ventilating windshield.

Front fenders and steps.

Sturdy radiator guard, attached to frame independent of radiator.

Radiator shutter, operated from seat—facilitates starting, saves gasoline.

Boyce motometer, to indicate temperature of engine.

Army truck type towing hooks at front end. Spring trailer drawbar at rear, on larger types.

Electric generator. Side lights with dimmers and non-glare lenses; dash light; bullseye tail light, protected in frame; electric horn.

Patented Gramm-Bernstein always-in-mesh transmission, with outside filler spout.

Patented wick oilers on all spring bolts.

Metal license brackets, front and rear.

100,000-mile hub odometer.

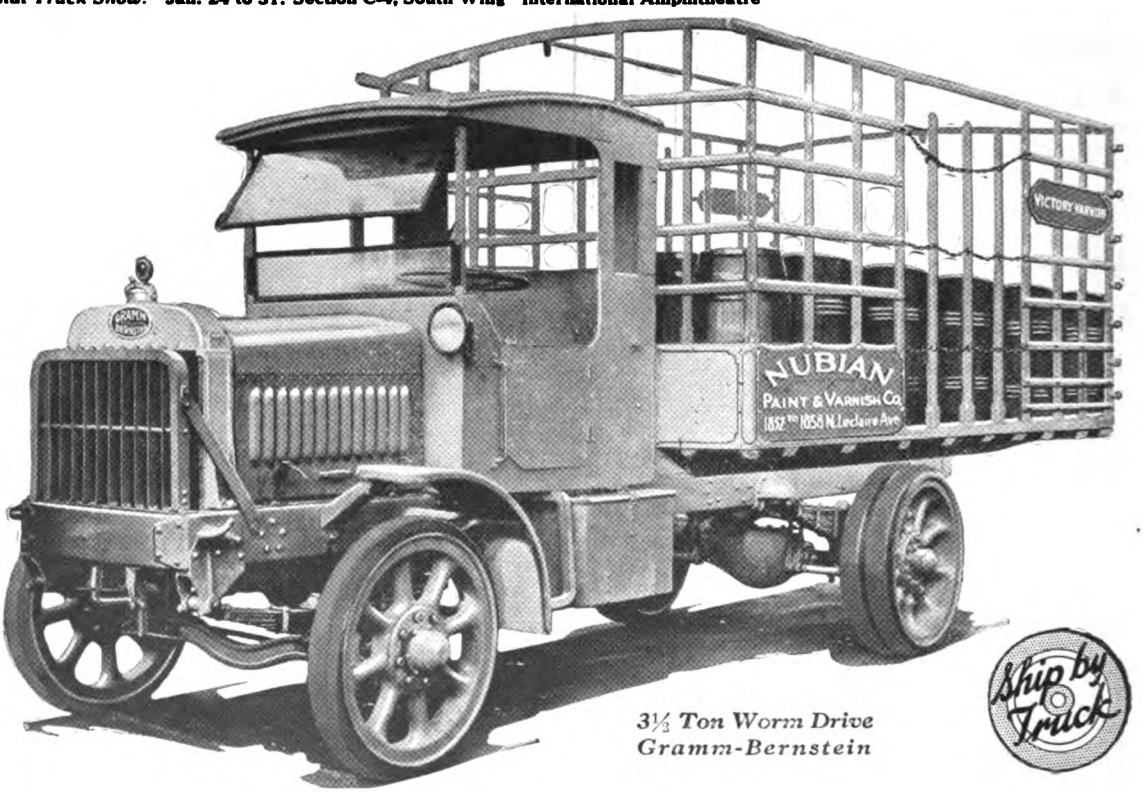
GRAMM BERNSTEIN

All Gramm-Bernstein Transmissions are provided with a pad for attaching Gramm's Basic Patent Power Take-off. Dealers and truck owners should assure themselves that any trucks purchased with power take-off do not infringe B. A. Gramm's Basic Patent No. 1194994.

The Gramm-Bernstein Motor Truck Co., Lima, Ohio

Pioneers Since 1901—Builders of the First Liberty (U.S.A.) Truck

Chicago National Truck Show: **Jan. 24 to 31. Section C-4, South Wing—International Amphitheatre**



3½ Ton Worm Drive Gramm-Bernstein

GRAMM-BERNSTEIN

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Stewart

MOTOR TRUCKS

Here it is!

The Truck Sensation for 1920

The new Stewart 2000-lb. Delivery Truck—electric lights, electric starter, magneto ignition, five inch cord tires, chassis price, $1595

THE real event of the year in truck-building; a big, fast, flexible Stewart Delivery Truck—all truck from the ground up, and at a popular price. Not a bit of passenger car construction in it—every part designed by truck engineers for truck purposes only.

Fast for delivery and rush jobs; strong for the heavy hauling from railroad or warehouse; quick in the getaway; beautifully designed and balanced; no solid tires to rack the car and damage the goods; proof against sudden, hard shocks; ready for any weather and the toughest kind of going.

With all its rugged truck strength, this Stewart delivery truck handles and ticks off trips with the ease of a taxi. It has the speed, convenience and comfort of the frailer, half-breed passenger-car-truck.

And this new Stewart is a wonderful buy. Its cost is low. Price others, add their "extras," and prove up the claim that this is America's greatest truck value.

And all the famous "less-cost-to-run" Stewart features are included—simple design, hundreds of needless parts eliminated; oilless bushings, doing away with 35 grease cups and the time filling them; heavy truck axles; cast tank radiator; front bumper; rebound spring plates; internal gear drive axle, delivering more than 92% of the engine power to the rear wheels—all features that have made the Stewart's world-wide reputation for economy.

No wonder that the Stewart 2000-lb. Delivery Truck was a hit at the national truck shows, and is a truck headliner for the year. It is the response of the Stewart engineers, after seven years of progressive truck-designing, to the demand of business for a double-utility truck, combining speed and convenience with durability and capacity—a truck that is ready for unusual needs and conditions, and continually surprises you in its actual performance.

Quality Trucks Since 1912

STEWART MOTOR CORPORATION, Buffalo, N. Y.

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Will Motor Trucks Be Scarce?

Home Conditions Plus Foreign Demand May Cause a Shortage Before the End of the Present Year.

FINANCIAL circles place the 1920 minimum demand for motor trucks at 325,000, and the maximum demand at 375,000. In considering these figures it must be borne in mind that the automobile industry has frequently surprised students of the situation by the great extent of its demand. Such a surprise is likely to develop in the truck field this year. In fact, it is predicted that the truck demand would probably be nearer 600,000 than the maximum figures already quoted. It is also worth remembering that, in times like the present, production schedules are more easily decreased than increased if expected demand should fail to materialize.

For motor trucks the ratio between the total number of trucks and the total population will probably never be a significant figure. Increases in this line have been as follows:

	Registration Dec. 31	Increase for Year
1914	136,907	
1915	205,435	68,526
1916	301,321	95,886
1917	442,478	141,157
1918	593,092	140,614
1919 (*)	800,000	206,908

*Figures for 1919 are based on official estimates.

The over-production of trucks on account of the sudden ending of the war allowed buyers in this field to partially fill their demands. It is worth noting that in 1919 the majority of truck dealers were unable to get prompt deliveries on trucks ordered by them and which were actually sold. It can also be pointed out in this respect that this shortage on the part of the American manufacturer came with only a slight demand on him for trucks for the export trade. The material situation was largely responsible for truck manufacturers being unable to supply trucks on all orders they had on hand, but in many cases the manufacturer had not estimated that the demand for trucks in 1919 would exceed his laid-out production schedules. Looking at it now, I am sure that the truck manufacturers will not be able to make prompt deliveries in 1920. There will be some manufacturers who can live up to readjusted schedules or fill unexpected orders, but it will take "shopping" to find such sources of supply not now visible.

The greatest number of trucks exported in one calender year left the United States in 1915, when 22,094 were shipped out. The yearly figures have steadily fallen off since that time. What the 1920 demands will be depends on the European buying power. To take as a criterion the reports of these foreign buyers who have lately been in this country placing orders and securing truck contracts, it is my opinion that 1920 will see some real big increases in the exportation figures of American-made trucks.

Bearing these facts in mind, will the truck buyer find the same condition existing in 1920 as the passenger car buyer has found when he wanted delivery? I think he will.

There is going to be no let-up in the aggressiveness of truck manufacturers in production, insofar as their abilities go to secure the necessary materials, but it must be recognized that already production schedules for 1920, that were formulated last Fall, have been cut from 15 to 40 per cent by nearly all the leading manufacturers. Transportation by truck is suddenly recognized as the one solution to not only our present inadequate railroad service, but as a great factor in the reduction of the high cost of living. The result is an unprecedented international demand for trucks in unheard-of volume. Thus unusual demand meets curtailed production, with the inevitable result. A shortage of trucks is inevitable.

Opportunities in South America

Theo. Hobgood, traveling in South America for the Moreland Motor Truck Co., Los Angeles, sends home useful information which the company publishes and which is as good for other manufacturers, especially on the Coast, as for the Moreland. Mr. Hobgood tells of noting, on a trip from Callao to Lima, in Peru, 62 cars loaded with 1½ to 2 tons each of freight of all kinds. For these the eight-mile trip requires a day. It could be done in an hour by motor truck—indicating opportunity for salesmanship.

One of the largest users of Moreland motor trucks is one of the world's largest mining companies. The trucks are hauling 9 tons of ore each trip, 4 tons on the truck, 5 tons on a trailer, rather remarkable at 14,000 feet altitude in the Andes range.

There are strikes down there. When Mr. Hobgood reached Callao a 15-day strike tied up ships, railroads, factories, even wholesale and retail stores.

Mr. Hobgood repeats the old advice, too little followed by those in this country desiring South American trade: Go after it earnestly; study the people; meet their own ideas if possible. In respect to credit, packing and in other ways, this is one reason why Germans in the past have done so well down there, and why they will do so in the future if the people of little old U. S. A. do not do the same.

Napoleon Production Schedule Increased

Orders being placed by dealers of the Napoleon Motors Co., Traverse City, Mich., have forced one change after another in the plans for the company for 1920. It had been decided to greatly increase the production, but the figures originally set have been altered again and again. Visits of Napoleon dealers from all over America and from Europe have brought orders beyond the expectations of the company, while new distributrs and dealers appointed have placed orders calling for many hundreds of trucks in excess of the plans made. Through its location at Traverse City, the Napoleon company has gained an advantage due to comparatively low living expenses, which has a marked effect on the cost of building its trucks, enabling it to place upon the market the 1-ton chassis at $1385, and 1½-ton chassis at $1660.

Big Truck Axle Makers Add to Plant

The greatly increased demand for Wisconsin worm-drive axles has forced the Wisconsin Parts Co. to increase its facilities in both additional space and equipment several times during the last two months. The Board of Directors has authorized an addition to the main plant of a building 240 feet in length. The directors also have authorized the purchase of a large amount of machinery to take care of the additional business on the books.

There have been rumors current recently that the Wisconsin Parts Co. is controlled by certain motor truck interests. W. F. Rockwell, president and general manager, states that the number of stockholders is limited; that he is personally acquainted with all of them, and can state positively that none of them has any interest in any motor truck or other accessory company.

Automotive Trailer Follows New Idea

The Automotive Trailer Corp., of Chicago, Ill., has production of the Automotive trailer, which is said to be entirely new in trailer design. The Automotive engineers have taken a decided step in advance in trailer construction by adopting in place of the fifth wheel or knuckle type axle a design composed of a dead axle with steering provided through a roller bearing turn-table. A complete turn may be made in a space as wide as the frame is long.

A. A. Lehr, vice-president and general manager of the Reynolds Motor Truck Co., Mt. Clemens, Mich., has appointed as purchasing agent R. C. Place, who for many years held a similar position with the Giles Tractor Co. Mr. Place assumed his new duties on January 5.

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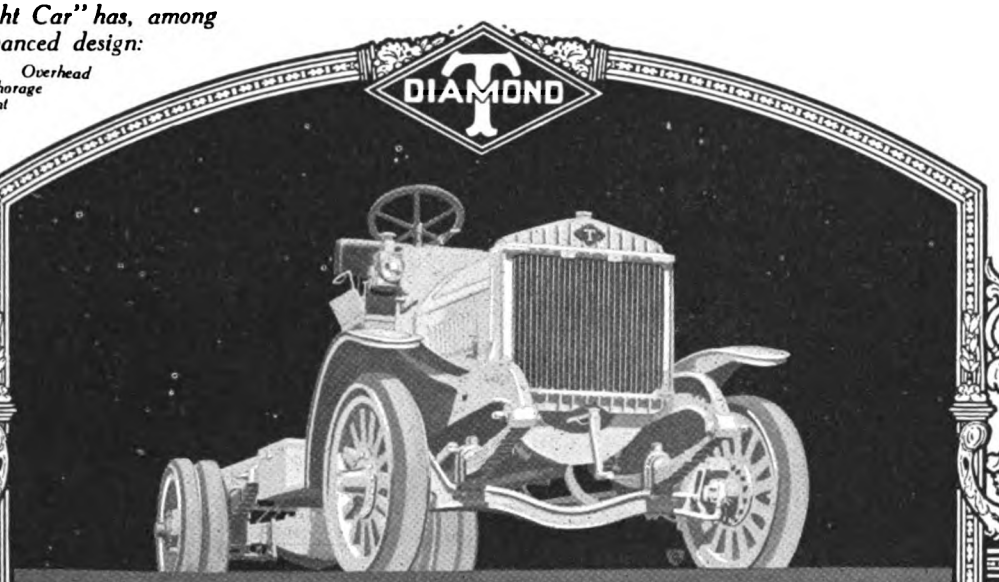
"The Nation's Freight Car" has, among other features of advanced design:

***Perfected** Hotchkiss Drive. Overhead worm. Exclusive Spring Anchorage (Patented) Unique three-point suspension (patent applied for) and other superiorities too numerous to mention, assembled in a design that represents the culmination of fifteen years' experience.*



DIAMOND T

"The Nation's Freight Car"

Ever Look for a Second-hand Diamond T?

They are rare. When you do find one, its re-sale price is substantially higher than any other truck of its type. True, you have no intention of buying a second-hand Diamond T, but its greater value after use surely indicates to you its **greater value before use.** And that means greater value in use—precisely the most important quality you want in a motor truck. What you want you get, in—

"The Nation's Freight Car"

These Distributors are behind Western Sales and Service:

Vernon A. Smith Motor Co.,
Distributors for the State of Washington
511-513 East Pike Street, Seattle, Wash.

Diamond T Truck Sales Agency of Oregon, Inc.,
Distributors for the State of Oregon
89-91 North Ninth St., Portland, Oregon

Hirsch Motor Company,
Distributors for Upper California
1131 Van Ness Ave., San Francisco, Cal.

Diamond T Pacific Truck Co.,
1220 S. Grand Avenue, Los Angeles, Cal.

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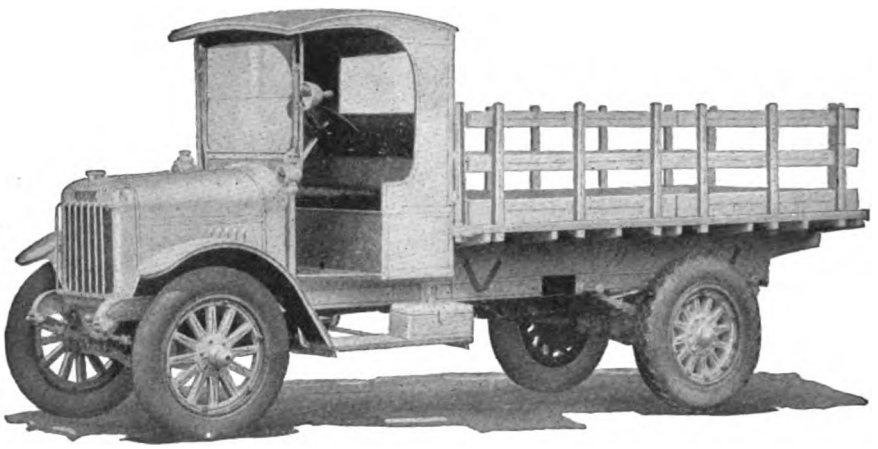
WOLVERINE

Some Good Dealers Territory is still open.



If interested, wire or write at once, as all territory will be covered very soon.

The Truck of Good Service

An up-to-date truck in every respect which will give 100% service to the owner. Fully equipped with electric starting and lighting system including a searchlight.

MANUFACTURED BY

AMERICAN COMMERCIAL CAR COMPANY

DETROIT, MICH.

HEADIN' WEST!

Electric Starting and Lighting

1½ 2½ 3½ Tons

The "KALAMAZOO"

"The Hand-Made Truck"

Unsurpassed opportunities for West Coast Distribution. Write—

Kalamazoo Motors Corporation, Motor Truck Division, **Kalamazoo, Michigan**

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MOLINE
COMMERCIAL
and
TRUCK BODIES

Two Million Dollars' Worth To Go Into Service In 1920

Greater Body Building Facilities.

More than two million dollars' worth of Moline bodies will go into service on Ford Ton Trucks and Model T chassis in 1920—due to the new and vast facilities of the Moline Plow Co. Body Works, now one of the largest builders of such bodies in America.

New Features in Design and Construction.

New features, stronger construction, without weight increase, complete adaptability, complete standardization to add to the selling advantages of Moline Commercial and Truck bodies along with the price advantages.

Nation-wide Distribution Through 23 Moline Branches.

You will readily recognize the greater convenience, the quicker delivery facilities for installation, afforded by the nation-wide distribution and stocking of Moline Bodies in the 23 Moline Branch Houses advantageously located. Many in the same city where there is a Ford Branch.

A Greater Dealers' Opportunity Now.

The foregoing with many other favorable features of Moline Commercial and Truck Bodies bring a great dealers' opportunity squarely before you. Dealers desiring details of the Moline Body Department and its value should

Write for Details Today

MOLINE PLOW CO.
BODY WORKS

Sales Office, MOLINE, ILL. **Factory, FREEPORT, ILL.**

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Truck Capacity Ratings

N. A. C. C. Adopts Standard Upon Which Guarantees May Be based—How It Applies to Moreland Trucks

THE matter of the capacity rating of motor trucks has for years been more or less of a mooted point in the truck industry and has been subject to so many varied interpretations that it has led to a wave of overloading, with many attendant evils. Some manufacturers have recognized this unfortunate tendency, while others in their enthusiasm to dispose of their product have been inclined to overrate the capacity of their trucks. The owners and drivers of the truck have taken these overcapacities under some misconception as actual ratings and then, in their desire to get the most possible out of their trucks, have even exceeded these figures.

As a result there has been much instability. Roads have been subjected to greater weight than wisdom would suggest and trucks themselves in a way have received somewhat of a black eye in the minds of many users, who found that they would not always stand up under continued rough use with overloads. Those progressive manufacturers who have realized that the future development of the truck as a great feature in the progress of transportation depends upon the economical operation that comes from long life have discouraged the tendency to a great extent.

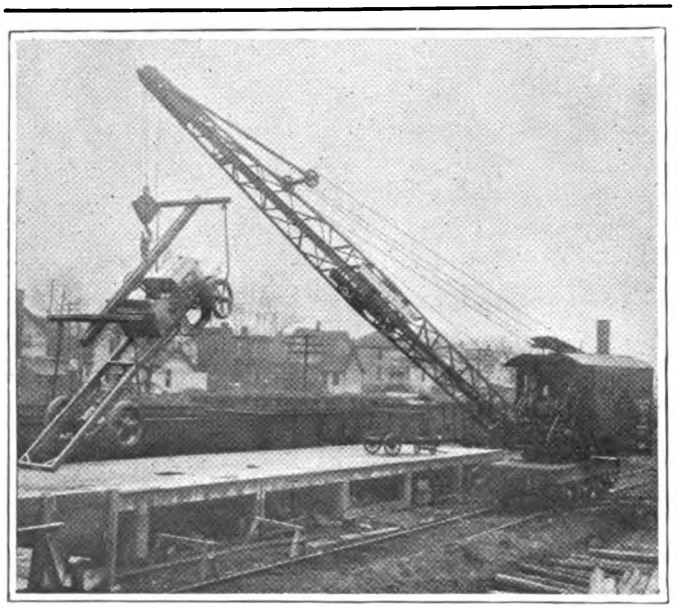
Motor truck experts realize that a truck may be overloaded without detriment, if handled carefully over good roads at a conservative speed; but that overloading and high-speed work on rough roads is death to long, satisfactory service. Under past conditions it has been impossible for manufacturers to place a capacity rating on a truck to meet all conditions of road, speed and character of merchandise carried. Realizing the necessity for some stable rating upon which guarantees may be based, the National Automobile Chamber of Commerce has taken the matter up, given it careful study and has just announced an arbitrary set of capacity ratings.

With the idea of determining just how these ratings applied to Coast-built trucks, a "Motor West" representative called upon the Moreland Motor Truck Co., Los Angeles, and was advised that that company had immediately adopted the ratings of the National Chamber as ratings upon which it will base its own guarantees. These ratings are as follows:

	20N	20B	20C	20G	20J
Capacity	2,000	3,000	5,000	7,000	10,000
Body allowance	900	1,200	1,500	2,000	2,500
Weight of chassis	3,700	4,130	5,400	7,400	8,300
Total maximum weight, body, chassis and load	6,600	8,330	11,900	16,400	20,800

In determining the load capacity under this rating, of course, the weight of the body must be taken into consideration. If the weight of the body is increased or decreased, the load may be decreased or increased accordingly. Owners may easily make their allowances by considering the weight of bodies they have in use. In the case of trucks carrying lumber there is practically no body weight, which allows the carrying of just that much greater weight of load. Trucks used to carry certain kinds of merchandise must carry heavy bodies in order to protect the load from injury.

In adopting this arbitrary capacity rating as fixed by the National Chamber the Moreland Co. urges upon the users of all makes of trucks the wisdom of adhering closely to the rating and its variations as determined by the consideration of body weights. Almost any truck will carry an overload at an overspeed, but overloading and overspeeding is certainly done at the expense of the life of the truck, and the one indulging in either or both must understand and realize fully the life of his truck is shortened and his maintenance cost must be greater.



SHIPPING GMC TRUCKS FROM FACTORY IN COAL CARS.

One of the features of the GMC plant that always interests visitors is the method of loading trucks for shipment. Such as the present shortage of rolling stock that the average manufacturer is pleased to get anything. The method of loading trucks in the automobile cars is simple enough, as the end doors permit of the trucks running up skids on their own power. But when coal cars and other gondolas are the only cars available it is a far different matter.

This has been met by the installation of a gigantic crane which merely picks up a GMC truck, swings it around and deposits it in a coal car. After the trucks have been anchored securely, so that the shunting of the gondola will not affect them, all is ready for the trip to destination. High efficiency on the part of the traffic department helps GMC dealers throughout the country to receive allotments on time, so that the business of their customers is interrupted as little as possible by lack of transportation mediums.

Garford's Capital Stock is Doubled

President E. A. Williams, Jr., of The Garford Motor Truck Co., with factories at Lima, Ohio, has announced that the capital stock of the company had been increased from $5,000,000 to $10,000,000 to provide for an extensive program of expansion. This expansion is necessary, Mr. Williams said, to meet the increased demands for the Garford product. It will provide for an increase in production which, within the next year, will be greater by 100 per cent than the present program.

One of the company's first moves will be to erect a modern addition to its factory, 400 feet by 100 feet. This building will be devoted entirely to the progressive assembly of Garford motor trucks. To provide for still further expansion, the company has purchased additional property adjoining its factories at Lima, Ohio, which will be utilized in the near future.

Showing 'Em in a 4000 Mile Trip

The best way to resume is to resume, said Greeley. The best to show 'em is to show 'em and to keep on doing it, was the thought that sent forth from the Republic factory in Alma, Mich., a motor truck with a farm body and pneumatic tires. It returned after covering 4000 miles, 3200 of them over country roads in six Western states, with a 2½-ton load, in all kinds of weather, without a change of tires. It had averaged 8 miles for each gallon of gasoline and 458 miles per gallon of oil. It must have sold many Republics, and doubtless some others, to farmers on whose lands it was demonstrated.

More Capital for International Truck

The International Motor Truck Corp., Chicago, Ill., will increase its common stock, of no par value, from 53,638 shares to 80,480 shares. Second preferred stock to be issued has also been increased from 27,230 shares, of $100 par value, to 53,478 shares, and the authorized first preferred stock from 43,816, par value $100, to 109,219 shares.

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GMC

General Motors Trucks

You Can Build a Profitable Business Selling GMC Trucks

Close co-operation between dealer and manufacturer characterizes a GMC connection and makes the selling of GMC Trucks a satisfactory and profitable business.

GMC Trucks are honestly built and give maximum service at minimum maintenance cost. Owners of GMC Trucks endorse them for work under all conditions.

Dealers in GMC Trucks are connected with a permanent leader in the truck industry, for these trucks are backed by the General Motors Corporation, the strongest organization in the automotive industry.

Extensive country-wide advertising and well-rounded direct mail campaigns to prospective customers give great help to GMC dealers and salesmen.

The volume of GMC Truck production makes possible delivery of trucks in sufficient number to enable dealers to carry on a profitable business.

There is territory open to reputable dealers, and full particulars will be sent to those interested.

Consider These Facts

Five Models, ¾ ton to 5 tons capacity.

Powerful four-cylinder engine. Extra large bearings and good cooling system.

Radius rods standard construction on all models.

Multiple-disc dry-plate clutch. No adjustments or lubrication.

Four speed, alloy steel transmission in 1½, 2, 3½ and 5-ton models.

Built-up separate-unit radiator of ample capacity. Pump circulation.

Double-action brakes on rear wheels—no braking strain on drive shaft.

Brake adjustments made without tools.

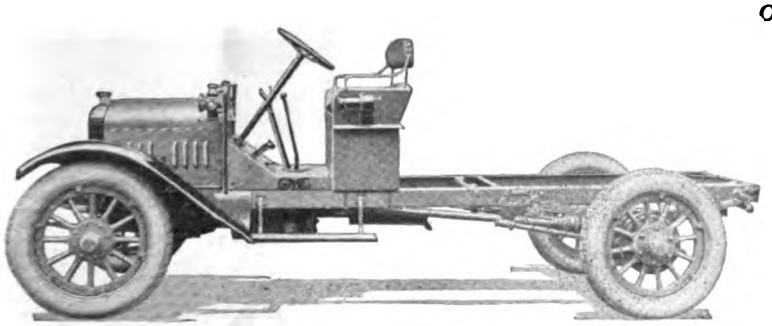
Metal wheels on 2, 3½ and 5-ton models.

Solid propeller shafts. Divided drive shaft gives better running balance, eliminates shaft whipping which reduces bearing wear.

GENERAL MOTORS TRUCK COMPANY

One of the Units of the General Motors Corporation

PONTIAC, MICH., U. S. A.



GMC Model 16, America's Standard All-Purpose Truck

(573)

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Un-retouched photograph showing Goodyear Cord Pneumatic Truck Tires still in service, after nearly a year, for The Wadley Company, Indianapolis, Indiana

Copyright 1920, by The Goodyear Tire & Rubber Co., Akron, O.

GOODYEAR

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Pneumatics Protect Loads for This Produce Company

"PNEUMATICS offer all-round advantages over solid tires in our hauling—save trucks, loads and improve working spirit of drivers. They require 1½ less gallons of gasoline on a 90-mile run. Solid-tired trucks sway over the road, but trucks on pneumatics run straight. Goodyear Cords are giving excellent service."—P.P. Triller, Purchasing Agent, The Wadley Company, Produce Wholesalers, Indianapolis, Indiana

Twenty-five motor trucks distribute poultry, eggs and butter for The Wadley Company throughout central Indiana.

During the past year Goodyear Cord Pneumatic Truck Tires have demonstrated their ability to reduce time and costs in comparison with solid tires in this service.

A 90-mile trip has been made repeatedly on the pneumatics in 3 less hours with 1½ less gallons of gasoline than when covered by a solid-tired truck.

Due to the jarring and shifting action of trucks on solid tires delicate produce has been damaged frequently, whereas the pneumatics prevent such loss.

Mud has stalled the solid-tired trucks, but the gripping Goodyear Cords have proved dependable under all adverse road conditions by reason of their firm traction.

An official describes the present mechanical condition of a Goodyear-Cord-equipped truck as being far better than could be expected on solid tires after a similar long term of hard work.

The photograph at the left affords additional and important evidence by showing Goodyear Cord Pneumatic Truck Tires still on duty after nearly a year of continuous hauling.

So this narrative confirms the many other records of Goodyear Cord Pneumatic Truck Tires that have saved trucks, loads, fuel, time and labor.

It indicates the force of Goodyear pioneering work in developing Goodyear Cord Pneumatic Truck Tires, Tubes, Rims and Repair Materials and in co-operating with others developing proper engine pumps, air gauges and vulcanizing equipment.

Information concerning pneumatic equipment for motor trucks and its results can be obtained from local Goodyear Truck Tire Service Stations or by writing to The Goodyear Tire & Rubber Company, at Akron, Ohio.

CORD TIRES

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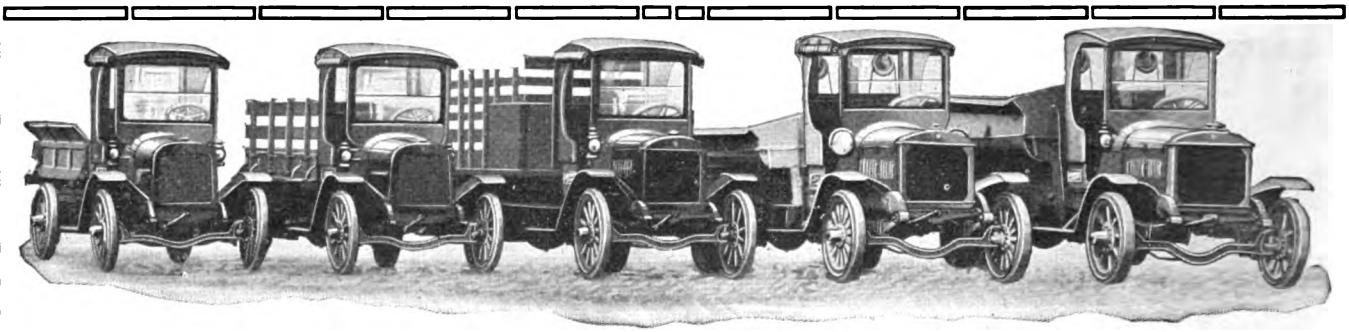


THE COMPLETE TRUCK LINE

1, 1½, 2, 3½ and 5 ton chassis—Acme Built Bodies

See this display at the National Automobile Shows at New York, January 3rd to 10th, and Chicago, January 24th to 31st

There are definite reasons why you can make more money out of the Acme line—for the line is complete even to the extent of having a model especially suited to farm work—the 1½ ton. Then, too, we add to your profits through our body-building plants, assuring quick deliveries to your trade of complete trucks, ready for service.

The Acme offers a surprising dealer opportunity, because you sell proved performance in the Acme proved units.

Send for our cataog—it is replete with valuable truck information that may form the foundation for your securing the Acme franchise. Address Department 211.

ACME MOTOR TRUCK CO. Cadillac, Mich.

ACME
REG. U.S. PAT. OFF.
The Truck of Proved Units

The Seal of Dependable Performance

ACME THE TRUCK OF PROVED UNITS

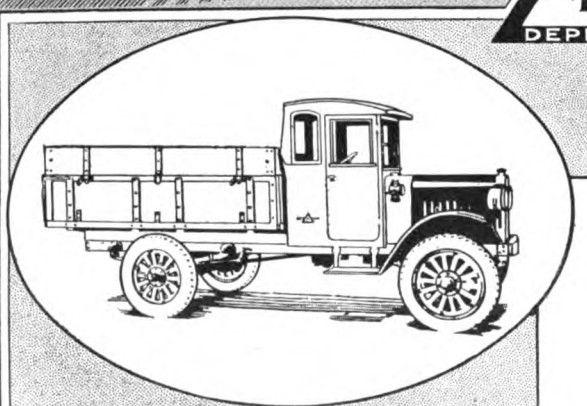
Trade Mark Registered U. S. and Foreign Countries

TRI-ANGLE

POWER SERVICE MOTOR TRUCK DEPENDABILITY

A Three-Fold Value

¾ · 1½ · 2 Special & 2½ Ton Models



THE fact that the sturdy TRIANGLE TRUCK is pleasing more and more critical customers every day is a significant commentary on its unusual *power, service* and *dependability.*

There are no weak spots in the TRIANGLE. Planned by a foremost engineer; built of the most approved units, and put together for honest service; prudent dealers everywhere are recognizing TRIANGLE TRUCK SALES to be a paying investment in the good will of their customers.

Some choice territory still open. Address or wire, Dept. Y.

Eastern Representatives
TRIANGLE MOTOR SALES CO.
381 Fourth Ave. New York City

New England Distributors
Eugene F. Lally and Sons Co.
Boston, Mass.

TRIANGLE MOTOR TRUCK COMPANY
St. Johns, Michigan

Digitized by Google

The evidence of Republic value is *undeniable.* No business man needs to go beyond the bare fact that 60,000 Republics are *establishing records everywhere*—for *performance,* for *ruggedness,* for *economy.* With more users of its product than of any other make, the Republic Company has become, in six years, the largest manufacturer of motor trucks in the world.

REPUBLIC TRUCKS

Republic Motor Truck Co. Inc., 941 Michigan Avenue, Alma, Michigan

Chicago National Truck Show
International Amphitheatre,
January 24 to 31

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Caring for the Motor Truck

While Not Delicately Constituted, the Modern Commercial Car Will Pay Better If Properly Housed.

A STRONG, well-built truck will, of course, stand much abuse. But the day comes when even super-construction is tried beyond its power of further resistance.

The truck has never been built that will respond to neglect as it does to care, says the Diamond T Accelerator. When you buy your first truck, possibly the salesman will assure you that after you pour in gasoline and oil you will "never have to give it another thought." That salesman misleads you.

Yet don't infer from this that a truck is going to absorb literally hours of time, nor that its caretaker will have to nurse it like a baby. You may be assured, however, that unless it does receive a reasonable amount of attention, it will in a few years become so expensive to operate that it would be folly to retain it in service.

Naturally, attention should begin at the very beginning—in the selection of your garage. Unless the garage gives protection from the weather, and unless it lends facilities for inspection and care, it would be just as well to stable the truck on the open road.

Whether you own one truck or a fleet, it is imperative that the garage afford ample protection for the truck and for the men who work on it; that it give sufficient room for inspection and repair; that greasy floors are not allowed to attack the tires; that it be well lighted, with extension lights allowing inspection of every part, and that there be a place for everything—and that place not on the floor!

Whether to maintain your own garage or to rent space in a public garage, is a question that will depend largely upon individual conditions and upon your location. One truck presents almost the same range of mechanical problems as a fleet, and requires almost as great a variety of apparatus for its care. If a public garage is conveniently situated, you could probably receive, at a fair figure, service which you could not yourself duplicate at the price. A fleet of eight or more trucks, however, could well keep one skilled mechanic busy. In such cases, it usually pays to establish and equip a private garage.

But even with a few trucks, the private garage will prove feasible if your driver has a fair mechanical sense and if you can depend upon him for frequent inspection, minor repairs and the "stitch in time" that often prevents serious damage. Or if some man in your organization is capable of supervising the work and seeing that the driver makes few errors of omission, it might pay to maintain your own establishment.

In any event, the garage should have facilities for minor repairs, and should be kept neat and clean—not alone to satisfy aesthetic tastes, but to save time, energy and space. There should be ample room for tools and implements, space for a man to work comfortably, and abundant light, so that his work may be well done and that no part in need of attention may be lost sight of.

Available room is not always a matter of area. Much depends upon arrangement. The oblong shape is preferred to the square, as it gives the greatest amount of available room without leaving large waste spaces. It is also a good idea to have "stalls" for every truck—either painted on the floor or outlined in concrete ridges. This discourages drivers from leaving their trucks in bothersome positions, together with the general disorder that accompanies such lack of system.

ROADS MUST BE BUILT FOR HEAVY TRAFFIC.

AMERICA needs not only more and more improved highways, that the full possibilities of the motor truck in the transportation field may be fully realized, but America needs and should insist upon better highways—roads built for heavy traffic.

One of the lessons America learned from the world war was the great, undeveloped field open to the motor truck. We had known that, of course, but it remained for the war to bring it home forcibly to every man, woman and child in the country.

Another lesson learned from the war has been in the matter of good, substantial roads. It has been truly said, I believe, that France was saved by her roads. And everyone who has been in France knows that the roads were of too light construction to stand the heavy traffic that went over them.

The result was a breaking down of the road, not serious enough to interfere with traffic, but bad enough to make the going hard. France had built her roads without vision, without looking ahead to the days when great fleets of automobiles, heavy wagons and heavily-loaded trucks would be plying them. As a result, French roads in the heavy traffic zone need a great deal of attention.

American trucks are hauling 350,000,000 tons of farm products each year, and I believe I am safe in saying that of all vehicles that use the highways, the motor truck probably causes the least damage in proportion to the service it renders—that is, upon roads that have been properly constructed.

There are two things that cause damage to roads. One is the impact of weight; the other is the wear on the surface of the road. With light roads such as were found in France the weight impact does much damage. If the roadbed is faulty, weight, of course, tends to break it.

But with the well-constructed road the greatest destroyer of road surface is the steel tire, such as on the buggy or heavy or light wagon. The steel tire hits the roadway with an unyielding impact. This constant, ungiving pounding crushes the stone and shatters all of the particles. Steel tires, because they are comparatively narrow, cut and dig deep ruts. In other words, steel tires literally pulverize the road surface. The suction of fast-moving pneumatic tires lifts this dust and scatters it to the winds.

But that is not true of motor trucks. Usually they are equipped with broad rubber tires. They travel at comparatively slow speeds. They do not lift the dust and consequently cause little damage to the surface of the properly constructed road because there is practically no suction from the truck tire.

The lesson America should take from France and from the study of the causes of road damage is that of roads for the future, roads with substantial foundations. True, our roads now are of much heavier construction than those in foreign countries, but we must look ahead to the day of the motor truck train, the possibilities of which, even on great cross-country hauls, we have already experienced through the tests of the government during the rush to get war materials to the seaboard.

We must build something more than mere speedways. We must build for what we men of the truck industry believe will be in a few years the greatest transportation agency in the world of business.—E. A. WILLIAMS, JR., President Garford Motor Truck Co.

De Long Now Indiana Truck Corp's Motor Engineer

The latest expert to be secured by the Indiana Truck Corp., Marion, Ind., is J. E. DeLong, who will act as motor engineer. The Indiana company recently consummated a large deal, acquiring Rutenber Motors, with which Mr. DeLong is familiar. His connection with the Rutenber Motors dates back to the time of the Western Motor Co., when E. A. Rutenber, originator of the Rutenber motor, was engineer. Later Marion capital bought in and the plant was removed from Logansport to Marion, and business operated under the name of Rutenber Motor Co., which company is still doing business in a large way. The Indiana Truck Corp. now builds its own motors, a fact which is of far-reaching important to the expansion of its business at Marion.

Cameron Line—Roadster Touring Car, Truck

A pronounced tendency toward air cooling for motors is noticeable, and the year 1920 will see more cars fitted with air-cooled motors upon the market than ever before. Several most interesting announcements in this direction are expected within the near future. These will create surprise, as in several instances they will come from old and well-known successful engineers of the past. E. S. Cameron, of the Cameron Motors Corp., Shelton, Conn., whose success with the Cameron air-cooled car in the past is a matter of record, is again in the field with a sport roadster, light touring car and 1-ton truck.

New Models Announced by Fulton Co.

With October 1 the price of the Fulton Model C truck was increased to $2350, f. o. b. Farmingdale, Long Island. The increase was brought about by general conditions regarding labor and cost of material. The company will shortly announce the addition of a new 1-ton model. Production on this model will be well under way in November. Another new model, a 3 to 3½-tonner, is also under way.

With the addition of these new models, the Fulton company has provided its dealers with a complete line of trucks.

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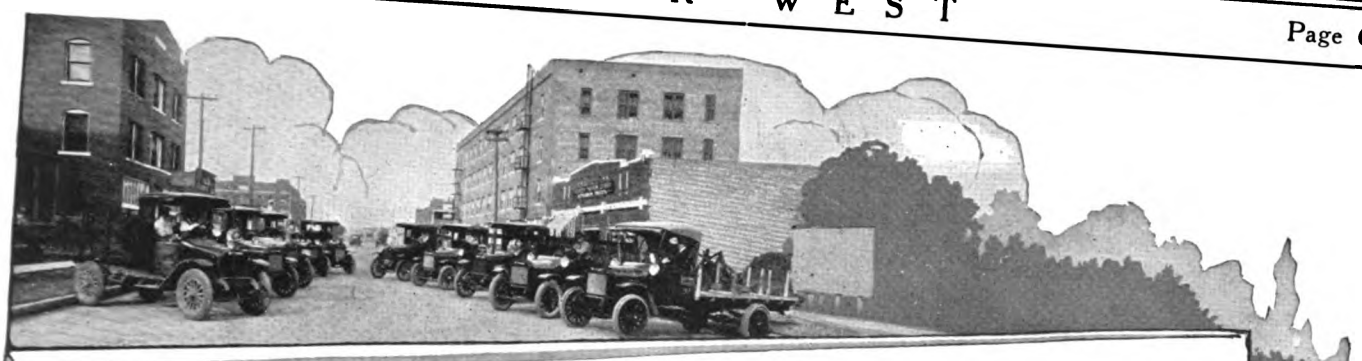

BETHLEHEM
TRUCKS

Purdy Motor Corporation

STATE DISTRIBUTORS

TULSA, OKLA.

November 10, 1919.

Bethlehem Motors Corp.,
Allentown, Pa.

Attention of Mr. Roy Davey

Gentlemen:

When we began business we had neither capital, organization, office, salesroom or service. We hired a good mechanic 15 days after the receipt of our first carload of trucks which were unloaded on borrowed capital. At the end of thirty days we employed our first salesman. We still had no place of business.

We got busy and found a building in a reasonably good location. We got busy in other ways also and in thirty days thereafter were able to show the results evidenced by the photograph.

In the five months time since we secured a permanent location, our force has grown from one mechanic, one salesman and a stenographer to sixteen employees in office, sales and service.

Since that time we have sold eighteen Bethlehem trucks and closed three dealers contracts out in the state calling for aggregate specifications of over one hundred trucks. We now have eight regular dealers covering a very considerable part of the state.

All of this is relatively small ousiness of course compared to established distributors, but for us, beginning with nothing in a territory where the Bethlehem truck was comparatively little known six months ago, shows a pretty fair ratio of improvement, I believe you will agree.

Trusting that this letter may be of some interest, and again thanking you for your inquiry in this connection, we are

Yours very truly,
Purdy Motor Corporation,

CVR:MM

By C. V. Reser

¾-Ton Chassis 1½-Ton Chassis 2½-Ton Chassis 3½-Ton Chassis
BETHLEHEM MOTORS CORPORATION
ALLENTOWN, PA.

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REYNOLDS

1½, 2½, 3½ and 5 Ton

MOTOR TRUCKS

are backed by a Square Deal policy founded on truth and business intergrity.

They represent the most profitable transportation proposition for Distributor and User alike.

Desirable territory is open to Responsible Distributors

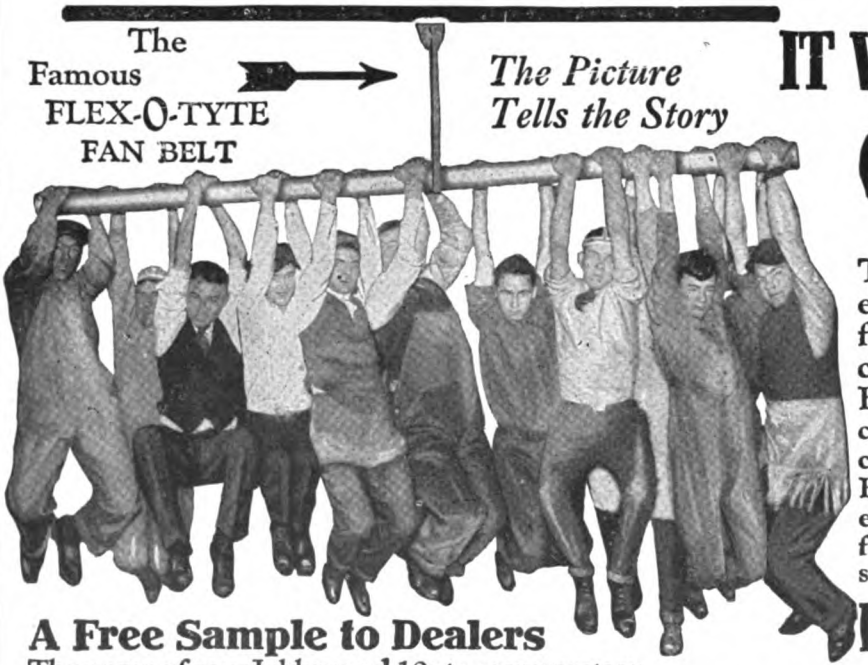
REYNOLDS MOTOR TRUCK COMPANY

MT. CLEMENS, MICHIGAN

THE WEIGHT WAS OVER A TON

The Famous FLEX-O-TYTE FAN BELT

The Picture Tells the Story



IT WAS THE FAMOUS FLEX-O-TYTE FAN BELT

The strongest, most durable, longest lasting and most satisfactory fan belt made. This is not a mere claim. The famous FLEX-O-TYTE Belt speaks for itself. Built of special Rubber Coated Fabric—wrapped cured. Tougher than leather. OIL, HEAT and WATER-PROOF. No raw edges like the ordinary vulcanized fabric belt, consequently no fabric separation.

A Free Sample to Dealers

Dealers—Get Sample

The name of your Jobber and 10c to cover postage and packing brings sample belt for late Ford model. Also 32-page Catalog. No obligation on your part.

A. J. STEPHENS RUBBER COMPANY

CHESTNUT STREET KANSAS CITY, MISSOURI

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U S MOTOR TRUCKS
FLOATING POWER PLANT

Auto Show Chicago January 24 to 31 Inclusive

See Our Big Display

during Auto Show Week in the lobby of the

HOTEL SHERMAN

Clark and Randolph, Chicago

Dealers—Distributors—We will show a complete line of United States Motor Trucks, NINETEEN TWENTY MODELS, in down town Chicago, at the Sherman House lobby.

Come and see us. Meet our executives. Make your headquarters here. Have your mail sent in our care.

Examine these new models of worm drive trucks—3,000, 4,000, 6,000, 8,000 and 12,000 pound capacities. Also 1½ ton Farm Truck with five-way convertible body. This is the finest complete truck line ever offered.

United States Motor Trucks are the latest word in motor truck design, construction, quality, efficiency and economy of operation. They meet every haulage requirement.

Nowhere else can the dealer find such a line of trucks to sell—trucks which give the user so much for his money. These trucks will sell fast.

WIRE TODAY

Open territory is being closed rapidly. Ask about yours. Have it reserved until you can see us. Our dealer proposition is the most attractive one offered in years.

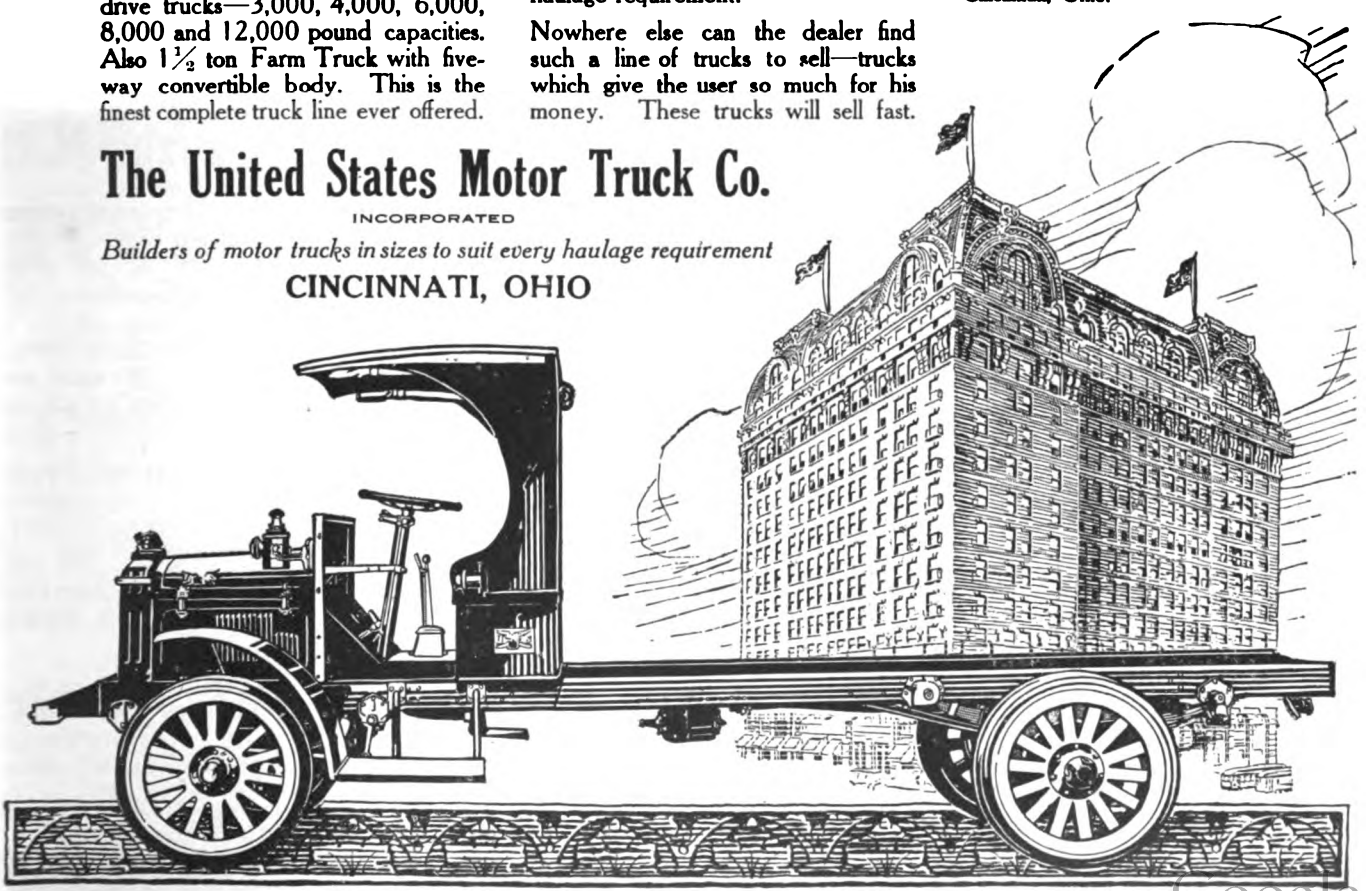
To facilitate prompt attention, address Mr. W. P. Kyle, The United States Motor Truck Co., Cincinnati, Ohio.

The United States Motor Truck Co.

INCORPORATED

Builders of motor trucks in sizes to suit every haulage requirement

CINCINNATI, OHIO



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Standard
DETROIT USA

"Survival of the Fittest"

Included in the Test of Motor Truck Builders — is Ability to Produce Motor Trucks. Ever Increasing Shortage of Standard Units will Intensify this Test as Time goes on.

More than ordinary Production—Continued Production of STANDARD Motor Trucks with the Leading Standard Units is Assured. Ten years of Stablized Motor Truck Building has placed the Standard Motor Truck Company on the Preferred Sales List for the following Recognized Standard Units:

CONTINENTAL Motors
SPICER Universal Joints
ROSS Steering Gears
GEMMER Steering Gears
PERFECTION Springs
EISEMANN Ignition
LONG Radiators
TIMKEN-DETROIT Axles and Bearings
BROWN-LIPE Clutch and Transmission

Whether you Buy STANDARD Motor Trucks or whether you Sell them—you are putting your Faith in Motor Trucks that are the

"Survival of the Fittest"

Will be Exhibited in National Automobile Show, Chicago, Jan. 24 to 31.

DEALERS WRITE FOR TERRITORY.

Standard Motor Truck Co.
Detroit, Mich.

Standard Registered DETROIT USA

MOTOR TRUCKS

1, 2½, 3½ and 5-Ton Capacities with a Body Style for Every Business.

"All the name implies"

Scale in Truck Engine

A recent bulletin sent out to the distributors of Service motor trucks, over the signature of Charles Guernsey, chief engineer, has quite a universal application and is well worth the attention of truck users. The notice is as follows:

"Our attention has been called to the fact that in some territories heating of engines has been caused by accumulation of lime, iron or other impurities in the water jackets of the engines. These impurities stick to the outside of the cylinder walls just the same as scale sticks to a boiler. This scale on the cylinder acts as an insulating wall and results in overheated engines.

"In order to remove this scale it is recommended that the cooling system be drained and thoroughly flushed with water, then the lower pump connection plugged up and the water jacket (not the radiator) filled with a solution made of one part of hydrochloric (muriatic) acid of a specific gravity of 1.20 and three parts of water, by volume. This solution may be left in the water jackets until the scale has become loosened, and in fact the solution may be made a little stronger at the last.

"After the scale is loosened, the water jacket should be flushed with pure water, by means of a hose, for several minutes. It is necessary that the acid be thoroughly removed after cleaning to avoid permanent action on the cylinder walls. This solution should not be used in the radiators, as it will attack any impurities present in the copper."

Coal for Truck Makers as Necessary as for Railroads

When the coal shortage started to pinch manufacturing industries and a curtailment of working hours became necessary, the motor truck maker was stopped along with all others, although his supply of coal was sufficient in many instances to allow of steady manufacturing. Forrest J. Alvin, general manager of the United States Motor Truck Co., took a strong position on the stoppage in the motor truck field. He based his statements upon the great work being done by motor trucks to reduce the high cost of living and to relieve the suffering of the people in every section of the United States and throughout the world. He believed firmly that motor truck makers should be encouraged to make more trucks and to get these trucks into the field as rapidly as possible to aid in the situation which existed. It was his belief that motor trucks played quite as important a part in the scheme of things as did railroad trains, for the running of which the coal of the manufacturers was confiscated. He called attention to the fact that the public everywhere would be the sufferers through stoppage of manufacturing trucks, due to the splendid work being accomplished by trucks to reduce the high cost of living by solving questions of speedy transportation, and through relief given to the over-burdened railroads of America.

Packard Truck Driver's School Graduates 400

The last 1919 class of the Packard truck-drivers' school received their drivers' certificates last month. The class has been attended regularly by about 150 men, most of whom received either first or second-class certificates, depending on the amount of actual experience in truck-driving.

The truck-drivers' school is operated by the Packard Motor Car Co. without charge to any who wish to avail themselves of the opportunity of mastering the details of operating a motor truck, and in the twelve months of its operation has turned out approximately 400 students. The object of the school is to teach the man who drives either his own or his employer's truck to handle it in an intelligent and efficient manner.

Long Distance Hauling in Central Asia

Thirty trucks have been sold by a United States maker to the Turkestan Agricultural Colonization Co., to replace a caravan service of 4000 camels and 1000 men, for a hauling business covering a route of 2000 miles between Tientsin and Kulja, China. The 6-ton trucks will make the round trip in thirty days. A camel, carrying 300 pounds, 20 miles a day, requires a year.

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Geo. Drake Smith Vice-President Winther Co.

The Winther Motor Truck Co., Kenosha, Wis., beg to announce that George Drake Smith has been elected as vice-president and a member of the board of directors of the company. Mr. Smith came to the company to reorganize the sales, advertising and service departments, and has, with the aid of his assistants, doubled the shipments for the month of December, besides which the company has orders booked for the full capacity of the plant well ahead.

An Export Department has been organized under the charge of Charles H. Meeker, and large orders have been booked for foreign countries for immediate shipment. C. T. Abbott has been elected as secretary of the company as a just recognition of his assistance in departmental reorganization. H. D. Snyder has been appointed assistant general sales manager. At no time during the company's existence has business been so prosperious or prospects so bright.

Faulkner Heads Moreland Advertising

Herbert A. Faulkner has recently been appointed advertising manager of the Moreland Motor Truck Co., Los Angeles. Mr. Faulkner has had wide experience as a practical daily newspaper and advertising man. He was especially known through his originality and initiative in the conduct of his department as general advertising and passenger agent for the Bay State Street Railway Co., of Boston, being in charge of all advertising, publicity, promotion of traffic and public relations work for that company. He was also secretary of the New England Street Railway Club and editor of its various publications, including the Street Railway Bulletin, a technical trade publication. Like many another, Mr. Faulkner came to Southern California for a vacation, saw the country and was conquered.

Rainier Increases Facilities for Body-Building

The Rainier Motor Corporation announces that its big plant at Flushing, Long Island, has increased its facilities for building bodies for its worm-driven delivery trucks. It is now prepared to get out any style of body desired for its patrons quickly, as a large number of new employes have been secured and its facilities for rapid body work greatly enlarged. This is a great convenience to the buyers of its trucks, as it obviates hunting around for someone to build a body and gives bodies peculiarly adapted to the use of the Rainier.

Selden Gets $5,000,000 Contract

What is said to be the largest single order ever placed for motor trucks, for purely commercial uses, either in this or any foreign country, has been closed by the Selden Truck Corporation, Rochester, N. Y. The contract calls for fourteen hundred Selden trucks to be delivered in Europe on a monthly schedule, the whole contract to be completed within twelve months from January 1, delivery to be made by the Selden Co. at port in New York. The deal was consummated through Gaston, Williams & Wigmore, who handle the Selden line in the European field.

Expansion in Reliance Plant

The Reliance Motor Truck Co., of Appleton, Wis., will build a four-story factory addition next spring, 70x300 feet, to cost $230,000, with new tools and other equipment for manufacturing trucks and rear axles, according to J. F. Balliet, president and general manager.

FWD Representative in San Francisco

D. B. Cooper, Western sales manager for the Four-Wheel-Drive Auto Co., of Clintonville, Wis., is now located in the offices of Wilbur F. Knapp, of San Francisco, distributor of F.W.D. trucks in Northern California and Western Nevada.

Every Shop Needs

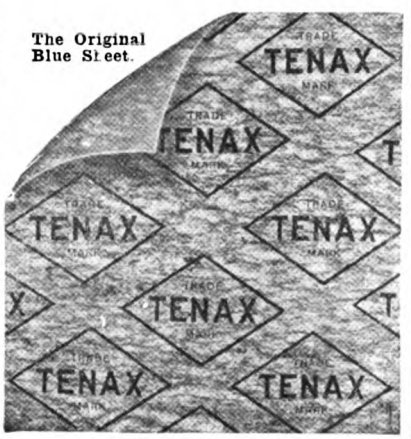
TRADE TENAX MARK

Compressed Asbestos Sheet Packing

Right now—when shop work is pressing, when costs are so high—you need **TENAX**. Let **TENAX** increase the efficiency of your own shop. Use "The Old Standby"—the reliable general purpose sheet. Preferred by expert engineers and bought by the name **"TENAX"** for twenty years.

TENAX comes in sheet 50x50 inches, 1/32 to 1/8 inch thickness, inclusive. Made also in 1/64 inch thickness, black graphited sheet only. We die cut gaskets to any shape on order. For quotations in this work send blue prints or templates.

The Original Blue Sheet.



A Saver of Help, Time and Costs

Saves because it makes repair work **permanent.** When **TENAX** is used the job will last for years. Saves extra help and time and costs that result from use of inferior packings.

TENAX cannot squeeze out, rot, burn or melt. Your men can save money for you using **TENAX**—they can pack confidently with **TENAX** whether it is to be subjected to cylinder explosions, gas engine exhausts, acid, alkali, ammonia, superheated steam or any other active agent. **TENAX** requires no following up. It is **permanent.** Pack with **TENAX** and forget the joint forever.

Reasonable In Price

There is hardly a limit to the price men will pay for absolute reliability, yet **TENAX is reasonable.** It is surprisingly economical. Thousands of shops use it every day. Let it help **you reduce** costs.

Write In Now. Get Prices.

Ask your jobber for details, but if he cannot supply you now, use the coupon and let us quote you prices. Examine the small sample at our expense—or order a few sheets of **TENAX** now for your trial.

Jobbers: If you haven't already arranged to handle **TENAX** for your trade, write us **NOW!** Help them enjoy the saving and convenience of this wonderful sheet.

ADVANCE PACKING & SUPPLY CO.

17 North Franklin St., Chicago, Ill.

ALLIED INDUSTRIES, INC., Pacific Coast Representatives

282 Minna St., San Francisco, Cal.; 340 Azusa St., Los Angeles, Cal.; 1252 First Ave., So. Seattle, Wash.

Use This Coupon!

ADVANCE PACKING & SUPPLY CO., 17 N. Franklin St., Chicago, Ill.

Gentlemen—Please send us prices, samples and description of TENAX Compressed Asbestos Sheet Packing.

Name .....

Address .....

City .....

Am Dealer.....Jobber

.....

My Jobber is. .....

Address .....

(Please fill this in.)

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Permanent Exhibition of Farm Tractors in New York

With more than 90 per cent of its entire 50,000 square feet of floor space occupied and most of the exhibits already installed, the permanent International Tractor, Trailer and Farm Implement Exchange on the seventh floor of Grand Central Palace presented much of interest to automobile show visitors and exhibitors last week. The Exchange is one of the permanent divisions of the International Exposition of Industries operated by the Merchants and Manufacturers' Exchange of New York. Everything in the agricultural machinery field is offered, numerous makes of trailers being shown together with tractors and other power-driven machinery.

Among the manufacturers whose products are included in this permanent comprehensive display are such companies as Advance-Rumely, Avery Company, J. I. Case Plow Works, Chicago Steel Post, Craine Silo, Detroit Trailer, General Ordnance, Holt, International Harvester, Northway Trailer, Ohio Trailer.

A Remedy in Tractor Transportation

We have spoken of the possibility, even probability, of a mechanical device being developed whereby tractors could be used on highways without damaging the roads. Meantime, here comes a perfectly good idea, already in use, and its use increasing: The low tractor trailer.

Stall the trailer; put a runway up against it; run the tractor onto the trailer, by its own power; hitch the trailer to a motor vehicle and be on the way.

A man near San Jose, Cal., paid a draying concern $25 every time he wanted his tractor moved, maybe because he was too conscientious to do hundreds of dollars' worth of damage to the highway; also because the law would prevent him. Now he uses a low trailer.

Trailers double a motor truck's hauling capacity, and if properly tired are quite fit to appear in public in greatly increasing numbers.

The Allis-Chalmers tractor will be handled in Washington and Oregon by the Northwest Tractors Co., of Everett, Wash.

Dealers' Association Changes Name

At the recent meeting of the Traction Engine and Implement Dealers' Association of Southern California it was decided to change the name to The Tractor and Implement Dealers' Association and to incorporate under that name. The new body starts out with a large membership, assets of over $3500, and no debts.

The new directors elected, and who will elect officers, are: E. G. Judah, of the Community Mfg. Co.; Tom Osborne, of the B. Hayman Company; H. L. Marsh, Samson Sales Co.; A. W. Hudson, Killefer Mfg. Co.; W. S. Gregory, of William Gregory & Son; W. W. Rainey, of Avery Company, and Cecil George of the A. F. George Company.

At the meeting Col. W. B. Brinton, former director of the Avery Company, now director and vice-president of the J. I. Case Threshing Machine Co., talked on co-operation, relating his experiences as president of the National Tractor and Implement Association. He is wintering in Los Angeles.

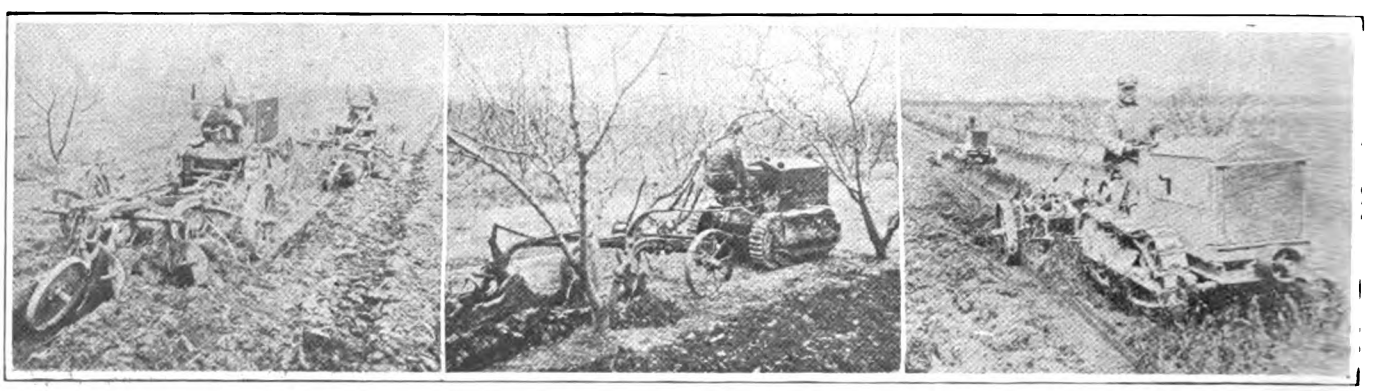
New Southern California Holt Manager

C. E. Walker, young in years but an old Holt man, having been sales representative or agent for the Holt Mfg. Co. practically since it put its caterpillar tractor on the market, is now manager of its Los Angeles branch, where larger and more complete stocks than ever, of extra parts for Holt machines, will be kept in stock. H. B. Langhorne will continue to have charge of the store room, order and shipping departments.

The plans of J. R. Graves, former manager, have not been announced. J. A. Hymer, salesman under Mr. Graves, it is said will have an important executive position in the home office. Both were active in the dealers' association in Los Angeles.

Prize Fighter a Tractor Farmer Now

Jess Willard, former holder of the pugilistic championship, uses a 25-50 Avery tractor on his 700-acre farm near Topeka, Kansas.



SHOWING THE FACILITY OF ORCHARD AND TRUCK FARM CULTIVATION WITH THE CLETRAC.

Thousands of ranchmen and fruit growers are trying to decide the tractor question. They know that in the tractor Twentieth Century progress is offering to agriculture the greatest mechanical help of a generation. It is sometimes hard for a farmer to decide, however, what type or what make of tractor is best suited to his individual needs. Fruit growers especially, in deciding their tractor problems, will be interested in the success of raisers of fruit and produce in the East, who have used Cletracs on their farms. One fruit-raiser found that one man with a tractor equipment can do as much and better work than two men and eight horses, plowing to any desired depth, maneuvering around under the trees and driving under the low-spreading branches without difficulty. With heavy foliage and low-top trees such as are usual in modern orchards, it is extremely difficult to work draft horses with danger of exhausting them. The tractor, however, makes all seasons its own, and drought and hard ground are no longer an excuse for suspending work. In fact, frequent tillage keeps the soil mellow and conserves the moisture.

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Sell Cletracs NOW!

You can sell Cletracs all winter long.

The farmer is through with his horses for the winter. They're not working—but the farmer is still feeding them costly food every day and doing his horse chores morning and night.

The U. S. Department of Agriculture estimates that it takes the crops of five whole acres, the average value of which is $297.00, to keep one horse one year.

The Cletrac easily replaces six horses with their yearly feed bill of $1,782.00.

Get the farmer to sell his horses and get a Cletrac with the proceeds.

He'll keep the Cletrac busy in winter clearing the wood-lot and the roads, sawing wood, grinding feed, running ditches and doing other winter chores. In spring, he lets go with the Cletrac—does 30 days work in a week and gets a bigger yield per acre.

The Cletrac is sturdy, powerful, economical, easy to operate. Runs on its own tracks — turns short — goes everywhere. Burns kerosene perfectly.

For the farmer, the Cletrac is a big-paying, all-year investment. For you, it is a ready, profitable, all-season seller.

Don't wait for Spring. You can sell Cletracs *now*—in winter.

If you are not a Cletrac dealer you're losing a chance for all-year profitable sales. Write for our proposition today!

The Cleveland Tractor Co.

19201 Euclid Avenue, CLEVELAND, OHIO

Sales and Service Headquarters at Spokane, San Francisco and Los Angeles

Largest Producers of Tank-Type Tractors in the World

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Usefulness of Tractor Service Wagon

After considerable experience without adequate observation, it was noted, three years ago, on the State University farm at Davis, Cal., that carrying tractor supplies, such as fuel and oil, in drums and cans, on sleds and wagons, wasted much time daily in filling, while bearings trouble indicated dirty grease and oil. The awakening resulted in a tractor service wagon which has more than paid for itself every year.

Purchasing a steel-wheel truck of 3500 pounds capacity, for $32 (three years ago), the reach was reduced to 6½ feet between axles and suitable irons were bolted on the end of the reach, for attaching implements behind the wagon wnen on tne road. For attaching the tractor, irons were attached to the end of the tongue, which was cut down to 6 feet.

The tank, of 20-gauge galvanized iron, was made 4½ feet long, 3½ feet diameter. It cost about $70 (three years ago) and holds about 350 gallons. It has a 2-inch outlet pipe, with a quick-opening brass fuel cock. This large faucet enables quick filling. It saves five to ten minutes daily in filling the tractor fuel tank, compared with the old way, of waiting for the flow through small compression cocks on the steel drums.

The tank wagon frame is of 2x12's, two of which, 10 feet long, were set on edge on the bolsters and held apart by placers at each end of the tank. Frame spreading was prevented by ½-inch rods at each end of the tank, the rear end of which was set on a bolster cut to fit the tank. The front end was held on two 2-inch iron straps. A 2-inch iron strap over the top of the tank holds it in place.

Cradles at the front of the wagon hold a 50-gallon barrel of track oil and a 15-gallon drum of cylinder oil. At the rear of the wagon is a water-proof cupboard, 34 inches high, 38 inches wide, 20 inches deep. It has roofing paper on top. It holds a 50-pound can of cup grease, 50 gallons of transmission oil; ½-gallon can of a mixture of cylinder oil and kerosene for lubricating valve stems; a 5-gallon filling can provided with a tight cover for both the top and the spout; a filling funnel with a fine-mesh screen for separating dirt and water from the fuel, and a ½-gallon can of priming gasoline. The cupboard also contains extra chains, clevises, large tools and spare parts.

The wagon is gray, not with age but paint, applied yearly, which keeps it from rotting.

Following Automobile Trade's Example

Competition for farmers' patronage by automobile dealers who have taken on tractors as well as many farming implements which can be operated by tractor has roused implement men at last from the lethargy due to having had a sure thing so long.

A strong feature of this competition has been service, which is part and parcel of the automobile sales policy. Service has been forced upon the implement men, with the result that at a convention in Chicago recently they discussed it—not so much with a view to increasing service as with reference to its expense, and some way of passing it along.

Another thing discussed, as the result of competition, was extension of study of cost systems for factories and retail shops. To this end a cost advisory bureau was established, with M. V. Porter, cost and efficiency expert, in charge. An address on the subject by E. T. Runge, of Cleveland, had much to do with this move.

Puritan Buys Elgin Service Business

The Puritan Machine Co., Detroit, has purchased the service and repair business of the Elgin Tractor Co., of Piqua, O. All service, repair parts, tools, blue prints, jigs, dies, etc., needed in the continuation of the service to Elgin tractor owners are being moved to the Detroit plant.

H. E. Daniels, Los Angeles branch manager for the International Harvester Co., is taking bids for construction additions to the company's building, which is 300x135 feet. The additions will be of steel and concrete.

Tractors Needed by Stock and Dairy Men

Considerable outlay, and some changes in system, are necessary in changing from old methods to tractor use on stock and hog ranches and dairy farms, but it pays. Certain farmers keeping accurate records have found that the average cost per year of a three-plow tractor on a dairy farm was $125. Factors to be considered seriously include the saving of man-hours, which means much more to a dairyman than to an ordinary farmer. With a three-plow tractor one can plow from eight to ten acres per day, or double disc from 15 to 20 acres. This not only keeps the dairyman ahead of his work, more independent of labor, but enables him to give to his cows feed which otherwise would go to horses. It enables him to disprove the saying that a dairyman cannot find time to raise his own feed. He can well double up on his work, using a tractor, with grain and alfalfa as costly as they are. The greatest use for a tractor on a dairy farm is in filling the silo, grinding feed, threshing, and running the separator and milking machines.

Live stock men who have dairy cows, hogs, beef cattle or sheep can, by using tractors, have a power source available between milkings or feedings. For hogs, ground grain adds to the profit; also ground alfalfa, because it saves the pasture stand. The tractor will attend to this. The feed value of barley, dry farmed, is also made more available, tractors being used for plowing, seeding and running the combine harvester.

What's true as to hogs is true as to other animals. It must be realized that the tractor is no longer an experiment, and that its taking hold at all was merely a development toward greater speed, greater efficiency, greater profit.

Experience With Tractor on 48 Acres

H. R. Temple, a Sacramento Valley rancher, mildly shows his preference for the Samson tractor, but only incidentally in telling his experience as to what size machine is suited to a small farm; and he says in Rural World that in the Natomas lands there are two dozen or more different types of tractors, and the majority of users are satisfied with the makes they have.

The chief mistake, he says, is in buying a tractor which has not the power for certain work. A small machine cannot be expected to work alone on 200 or 300 acres. It will do very well on less than 100 acres. Mr. Temple uses his on the only 48 acres of his 78 acres available for tractor work. It displaces six to eight horses; to try to make it do more, he says, would wear out the machine, which he has had 18 months. It has been overhauled three times, thoroughly. Doing his own repair work cut upkeep cost considerably.

About seven acres daily are plowed, and between 12 and 15 acres are harrowed and disked in the same length of time. The model he has will not work well in light soil without the wide extension wheels. Trying to work without them, the engine promptly buries itself with a light load, while with the extension wheels it will pull an 8-horse load in light soil without difficulty.

Many More Operators Seeking Positions

Not a surplus, but an encouraging increase to meet the demand for competent tractor operators, is noted by ranchers of the San Fernando Valley in California. The number of available men is much larger than at this time last year. Some of the best men recently graduated from the California College of Agriculture's tractor course given at Davis. Others are farmers of long experience who have spent some weeks in city tractor service stations. Still others are from good tractor schools.

One of the agreeable surprises, in operating a tractor, is in finding how easily it gets over the very rough places, compared with the way horses did it—or did not do it—before. There are frequent praises from farmers who discover this, some of whom go so far as to call their tractors "regular young locomotives."

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Field DURABLE BODIES

An Enduring Investment

In the good will of your customers—that's the truth about *every Field Body you sell.*

Field Durable Bodies are built to give *permanent satisfaction.*

They possess great strength, with the lightest weight consistent with that strength.

The bolster construction, for instance, is most substantial. Guardangles, stake pockets sills and floor are tied solidly together—a feature found *only* in *Field's.*

Our manufacturing facilities are complete, and so large that we produce Field Bodies at a price surprisingly low.

Our knockdown shipments secure lowest freight rates. A complete line of *Ford Bodies* always in stock. We are originators of the interchangeable unit idea for trucks.

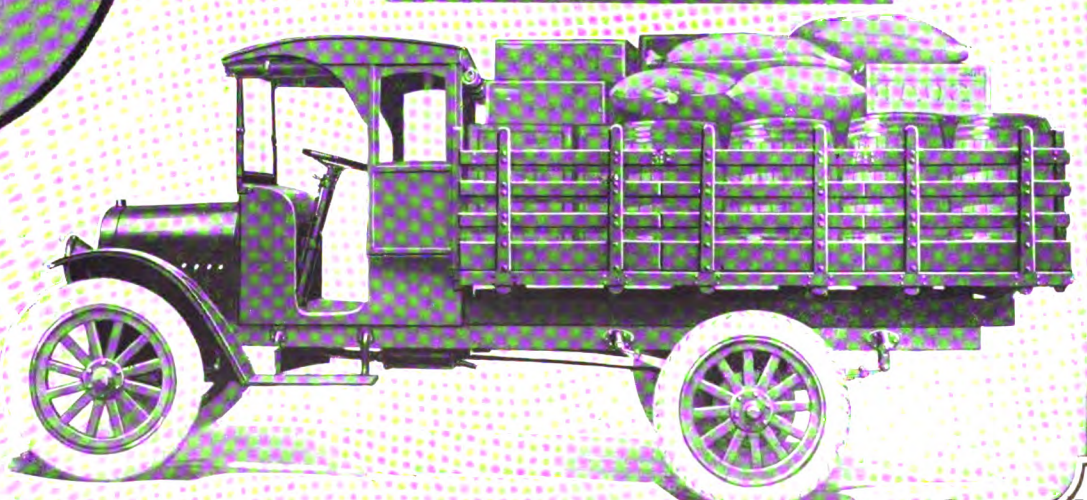
Write for prices and full description.

Address Dept. X.

FIELD MANUFACTURING CO.

OWOSSO, MICHIGAN, U. S. A.

Largest Exclusively Truck Body Plant in the World.



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Here Is a Real Money-Making Propostion

FOR AUTOMOBILE AND GARAGE MEN

THE HOLT POWER-LIGHT

It Will Charge Automobile Batteries—It Will Supply Electric Lights for the Garage, Farm, Lumber Camp, Ranch, Etc. and Plenty Of It.

Battery charging offers greater money-making opportunities than ever before. The HOLT Power-Light, however, is more than a Battery Charger—it is a high-grade, reasonably-priced, electric power and lighting plant, and—get this—it has NO STORAGE BATTERIES in the lighting circuit. It stands head and shoulders above every farm-ranch lighting unit as a power producer, and as a lighting unit. Why? Because of its practical application of the standard voltage principle, the soundness of which is daily and nightly proven by City Electric Light and Power Plants everywhere supplying cities and factories with standard current. We can supply with the HOLT for charging automobile batteries a Charging Panel which will charge from one to six 3-cell batteries at rates of from 2 to 7 amperes. Write and find out more about it.

More Reasons Why It Will Pay You To Sell The Holt

The Western Farmer and Rancher WANTS a dependable power and light plant without storage batteries in the lighting circuit, one that will give continuous power and light at a low operating cost. The HOLT is dependable, it has no storage batteries in the lighting circuit—it does give continuous power and light, and at low operative cost.

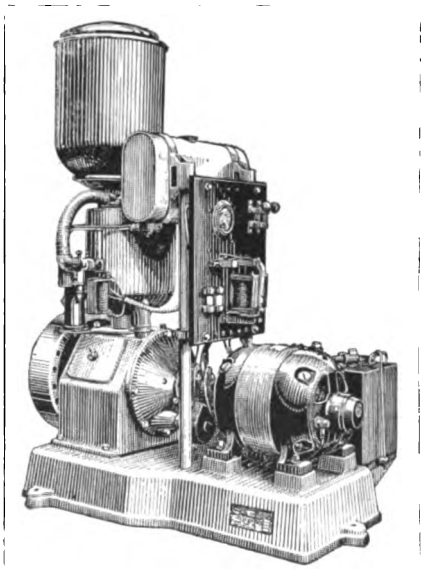
110 VOLT, DIRECT CURRENT

The Western Farmer and Rancher WANTS 110-volt current in preference to 32-volt current. The HOLT power and lighting plant supplies 110-volt current without batteries. This 110-volt current permits the use of standard switches, fixtures and electrical appliances obtainable at any electrical supply house. The house wiring cost is much less than for the 32-volt current.

The Western Farmer and Rancher is becoming WISE to the fact that storage batteries are inefficient and short-lived—that storage batteries deliver about 60% only of the power put into them by an engine operating on a 100% basis—a clear loss of 40%. The HOLT delivers ALL of the power generated direct to the power and light circuits, eliminating the inefficiency of the battery.

POWER HOLT LIGHT

NO STORAGE BATTERIES



The Western Farmer and Rancher WANTS a simple, well constructed plant that requires the least attention on his part. The HOLT power and light plant consists of a single cylinder, 4-cycle engine, having the fewest parts possible with this type of construction; a 110-volt General Electric Generator, which includes within itself the engine starter and 6-volt starting battery, and a simple switchboard. The throttle is of the electrically controlled type, and provides automatic choking for starting in cold weather.

The Western Farmer and Rancher DOES NOT WANT to go into the cellar or out to the barn to stop and start his plant. You start or stop the HOLT from downstairs, upstairs or in the barn. Simply push a wall button; then turn on light or power as required.

DEPENDABLE

This is our third year in business. The HOLT is not an experiment; it represents the refinement and experience of more than two years and is entirely dependable. Your profits will not, therefore, be spent for costly service trips to keep the plants running.

For the right kind of dealer, we have a real money-making proposition. Write or wire us specifying the territory you can handle.

AUTOMATIC LIGHT COMPANY, Inc.

L. W. HOLT, President.

20 POST OFFICE BUILDING LUDINGTON, MICHIGAN

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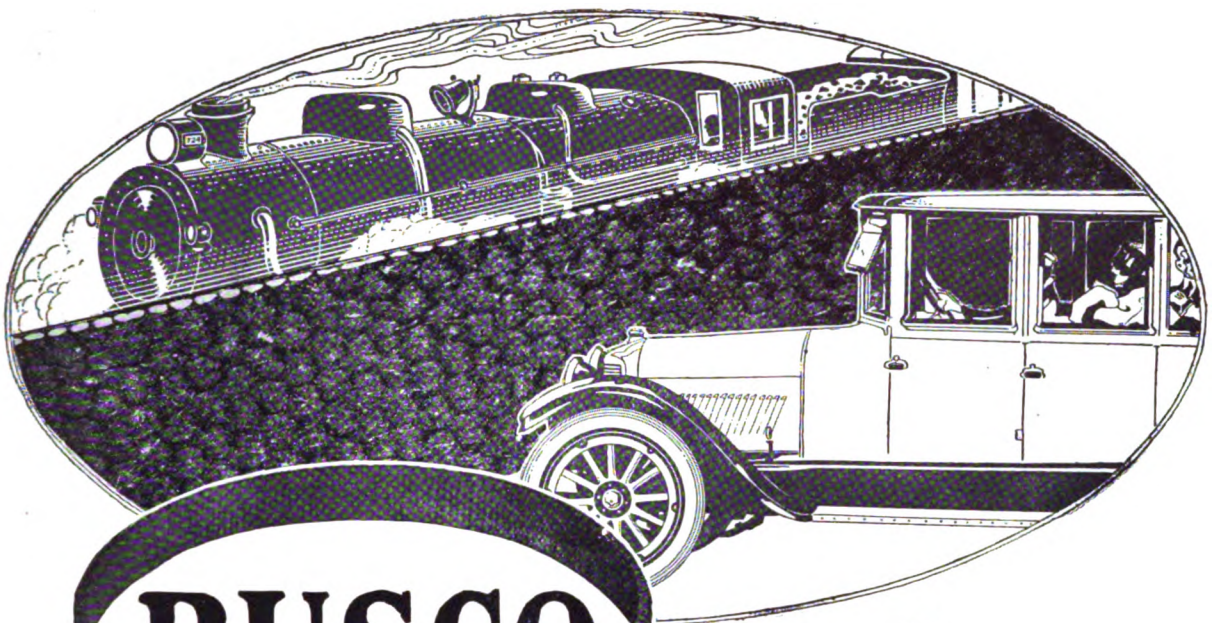
Like a Wall Between the Motorist and Danger



RUSCO Brake Lining and Clutch Facings

AUTOMOTIVE EQUIPMENT ASSN.

THE WEAVE in Rusco makes it supremely valuable to the motorist and to you; a wall of safety between him and danger;—a necessary business link between you and demand.

Are you taking advantage of this growing demand for Rusco Brake Lining? Superior quality and a year's guarantee are responsible for its universal popularity. You will find the same high quality in Rusco Clutch Facings, Top Straps, Tire Straps, Fan Belts, etc. Send for Rusco book of all products.

Guaranteed For One Year

THE RUSSELL MANUFACTURING CO.

Russell Avenue Home Office and Factories **Middletown, Connecticut**

New York, 349 Broadway
Atlanta, 60 S. Forsyth Street
Chicago, 1438 Michigan Ave.
Detroit, 18 Alexandrine Ave., E.

Western Distributors: JOHN T. ROWNTREE, INC., Los Angeles, Cal.
San Francisco, Cal. Seattle, Wash. Denver, Colo. Salt Lake City, Utah.

Southwestern Distributors: CAMPBELL, WOOD & CO., Dallas, Texas

38 Factory Buildings Established 1830 **25,000 Shuttles**

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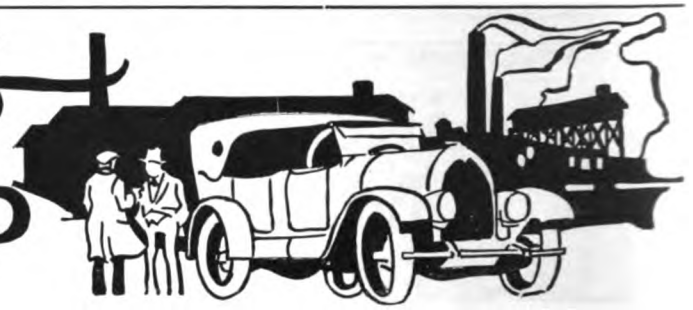
Trade Briefs & Factory Gossip



Trade News Via Detroit.

By force of circumstances, automobile manufacturers as a whole are letting Ford "gang his ain gait" as to prices and other selling factors. If he lowers his price, instead of increasing it, more automobile users will result—and more sales of other makes later.

Cost experts are trying hard to keep the 1920 price schedule as low as possible, but increases seem inevitable for both passenger cars and motor trucks. The imposing factors are high cost of materials and shortage of railway cars.

Prospective buyers specifying spring delivery are being asked to sign contracts subject to increase in price if it is announced at date of delivery.

Eighty thousand Ford employes received bonuses totaling $8,000,000, January 1. This in addition to the profit-sharing inaugurated several years ago, and which, now that the Fords own the entire stock, is being expanded so that any employe may invest as much as one-third of his earnings. As to the bonus, it amounted to $50 to those receiving the minimum pay, $6 a day, and $270 to those receiving the maximum pay, $10.80 a day.

Henry Ford's middle name is not George, but he believes in doing things, though sharing the profits with others; so he borrowed $100,000,000, bought complete control of the Ford interests and the talk is by next August all of that will be repaid, that within a year the Ford wage minimum will rise from $6 to $8 a day for the 52,000 or more employes, and that with their help and reduction of price despite rising costs of materials, it is the Ford hope to be a dominator indeed. British and Continental manufacturers are said to be organizing against what's coming in this respect. On the other hand, sensible elements in soviet Russia are said to be fairly yearning for Ford and his tractor in particular. Ford, you know, believes the tractor is the greatest little civilizer there is. He believes it would rejuvenate Mexico.

Production of passengers and motor trucks, by the Paige-Detroit Motor Car Co., is to be doubled in 1920, the result of three years of intensive engineering development. In 1919 the company had orders for 32,000 more automobiles than it could fill.

Three thousand of the new series of sixes, and several hundred 3½-ton four-wheel-drive motor trucks, is the planned output during the first half of this year by the Jackson Motors Corp., of Jackson, Mich.

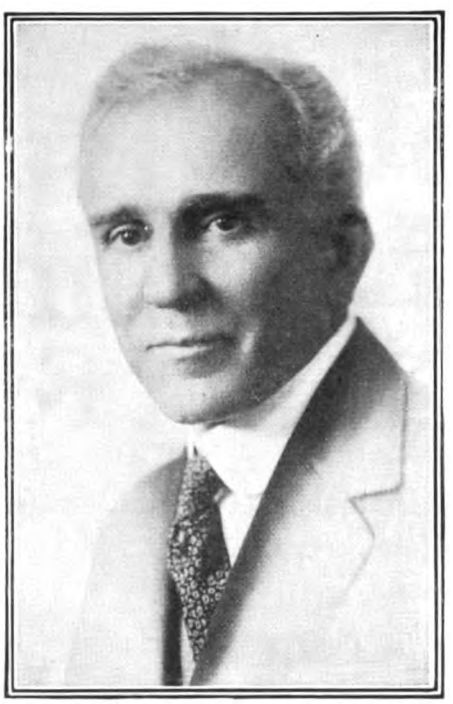
Early removal from its present location in Detroit to West Detroit is the intention of the Scripps-Booth Corp. Its production is to be largely increased.

Authority to issue $1,200,000 in 7 per cent 5-year bonds was to have been asked of Harroun stockholders late in December. It is said capital stock may be increased from $10,000,000 to $12,750,000, $2,500,00 of it to be 7 per cent cumulative preferred. Changing the company's name to Wayne Motors Corp., also has been under consideration.

* * *

Bates Joins Booty Carburetor.

E. A. Bates, a prominent figure in the carburetor manufacturer field, has severed his connection with Beneke & Kropf, manufacturers of the Rayfield



E. A. BATES,
President and General Manager Booty Carburetor & Mfg. Co., Chicago.

Carburetor, to accept the management of the company producing the new Booty Carburetor. He is now president and general manager of the Booty Carburetor & Mfg. Co., of 21st St. and Wabash Ave., Chicago.

* * *

Milburn Again in Production.

The Milburn Wagon Co., Toledo, O., manufacturers of the Milburn electric, is again in production. The big fire which partially destroyed the company's plant caused not more than ten days' interruption in production and practically no interruption at all in deliveries to distributors and dealers.

Expansion of General Motors.

General Motors Corporation is now the largest industrial corporation in the world—a $1,000,000,000 organization. At its recent meeting in Wilmington, Del., its stockholders ratified the directors' resolution to issue 6,100,000 shares, preferred and debenture, at $100, and 50,000,000 shares of common of nominal par value. The new plan divides the 56,100,000 authorized shares into 200,000 shares of preferred, $100 par value; 900,000 of 6 per cent debentures, $100 par value; 5,000,000 shares of 7 per cent debentures $100 par value; and 50,000,000 shares of common of no par value.

* * *

H. D. Church Joins Mercer.

H. D. Church has been elected vice-president in charge of engineering development of motor trucks for the Mercer Motors Co., of Trenton, N. J. In a similar capacity he has been for several years connected with the Packard. With Mercer his experience will probably be used in developing a line of Riker trucks for the Locomobile company, in which the Mercer is now interested.

* * *

Peterson Heads Own Firm.

V. W. Peterson, former advertising manager for the Stewart-Warner Speedometer Corp., of Chicago, and recently general manager of the Wm R. Johnston Co., of Chicago, has organized his own company in Chicago to manufacture automobile curtain windows. The new company, the Perfection Co., located at 2820 Wabash Ave., is headed by Peterson as president.

* * *

New Energies Behind Crow-Elkhart.

The Crow-Elkhart Corp., of Elkhart, Ind., has been taken over by new interests, a combination of New York and Ohio capitalists. Dr. E. C. Crow and Martin E. Crow, the company's founders, have disposed of their interests. J. A. Harps heads the re-organized and re-capitalized company as president and R. B. Donaldson, formerly with the Covert Gear Co., is vice-president and general manager. Before the war a 30,000-car schedule was planned for the company, but war conditions put it into financial difficulties.

* * *

Rolls-Royce Chooses Springfield.

The Rolls-Royce Co. of America, which will manufacture the well-known English automobile in this country, will make its home in Springfield, Mass. It has purchased the plant of the American Wire Wheel Co. there.

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GILL

The Perfect One Piece Piston Ring

"The car is going fine since you put these Gill Rings on the motor."

Isn't that the kind of commendation that brings joy to the heart of the garage man? It brings money to his pocket too, for a satisfied customer is a big asset to business.

It is the kind of talk the motorist gives when a set of Gill Piston Rings have been installed on his motor and naturally there's a reason for it. Look at the double step interlocking joint of the Gill Piston Ring and you will see the reason at once. An absolutely tight joint, with no loss of compression whether the cylinder is new or worn. The Gill Ring allows an expansion of from 1/8" to 3/16" before any loss of compression occurs.

Send for the new Gill Piston Ring Size Directory, complete, convenient and full of just the information you need. It is free to the trade.

Dealers—Ask your jobbers about them
Jobbers—Write to us for information

The Gill Manufacturing Company
351 West 59th Street, Chicago, Illinois

Sole Foreign Agents
AUTOMOTIVE PRODUCTS CORPORATION
Woolworth Building, New York, N. Y.

Pacific Coast Branches:

Gill Piston Ring & Sales Co.
1522 S. Grand Ave.,
Los Angeles, Cal.

Gill Piston Ring Co.
803 Van Ness Ave.,
San Francisco, Cal.

Gill Piston Ring Co.
723 E. Pike St., Seattle, Wash.

See the Gill Piston Ring Exhibit at the Chicago Automobile Show.

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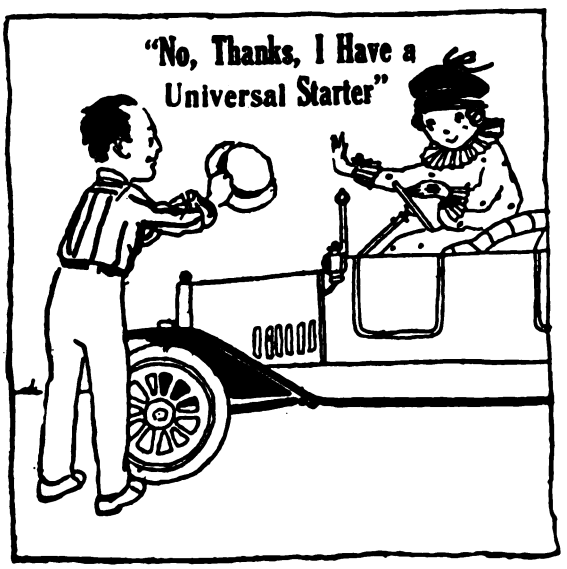
"Do You Still Crank Your Ford?"

—Do you still wade 'round in the mud on rainy days to get your car started?

—If you stop for a moment and kill your engine, do you still have to get out and wind her up?

—Do you think it necessary to be a slave to the crank?

"Whew, Wish I Had One!"



Thousands of Others Have Quit—Why Not You?

Thousands of other Ford owners have ended their cranking careers; they now step into their cars, **USE THE UNIVERSAL STARTER** and are away in less time than it now takes you to pull the priming wire on your Ford, and they don't run the risk of a broken arm or a sprained wrist.

Can Be Installed in 30 Minutes

Installation harmless to your car. Made of drop forged steel, and not a penny of upkeep in sight. A child can operate it in perfect safety. Back-firing can neither harm driver nor starter, protected by our automatic release.

"NEW UNIVERSAL STARTER"

Guaranteed for the Life of Your Car

$29.50

Including Foot Primer and Hot Shot Battery

Sold on a Positive Money-Back Guarantee

Guaranteed to work perfectly as long as your Ford will run. This guarantees the whole starter or any part of it. It's sold on a money-back trial. If it is not perfectly satisfactory we'll take it off your car and refund the purchase price. We know that's a strong guarantee, but also know that the Universal is perfect. Every part of it drop forged steel, and experience has proved that it will withstand the most severe abuse. It's absolutely fool-proof. Don't confuse the "Universal Starter" with others you have seen for sale. This is its first appearance in your territory. You must see it demonstrated to appreciate it. At the price this starter is offered you can within a short while save the cost of Universal Starter in gasoline and oil wasted in letting your engine run. Guaranteed to start any FORD that will crank. Demonstration stores are now located in most of the important cities in the United States and the territory in most of the States has already been sold. Counties in your territory may be closed any day. ACT NOW.

Live Agents Wanted!

Be Our Agent—Make Good Money Selling Our Universal Starter

The Universal sells itself. If you want a proposition that will bring unusually big returns for a nominal investment, write or wire, and preferably see us NOW for agency in your city, county or section. Some choice territory still open in Canada, U. S. and Mexico.

Universal Starter Company

Toronto :: Canada

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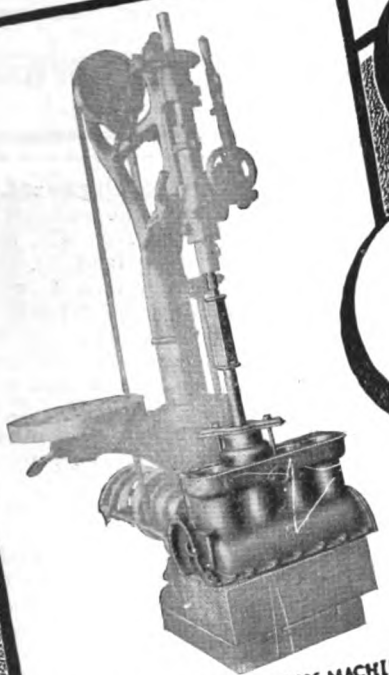
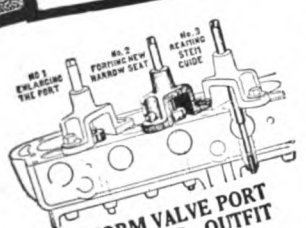
STORM MOTOR REPAIR EQUIPMENT



STORM CYLINDER REBORING MACHINE



STORM VALVE PORT RENEWING OUTFIT

These STORM tools, all of which are money-makers for the garage will interest YOU.

YOU garage owners and repair men can "cash in" big *right now* if you are equipped to properly handle the motor rebuilding work in your community. Now is the time to prepare for thorough overhauling and rebuilding. Change the usual dull winter period into a busy, profitable season. But you can't do this without proper tools. Storm Tools have been designed and are built by practical men. They are guaranteed to increase the efficiency, speed, accuracy, and profit of your work.

Get the Reputation for Doing First-Class Work!

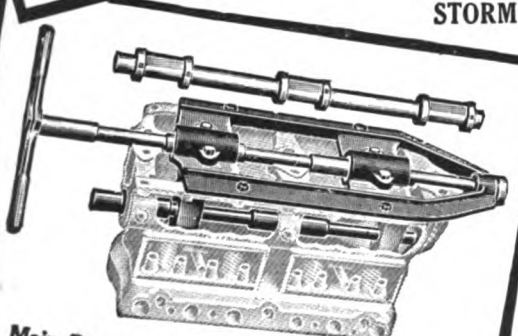
STORM Motor Repair Equipment Will Make That Reputation for You

STORM Reboring Machines are made in a variety of capacities—for hand or power operation—are inexpensive and can be handled with accuracy and speed by unskilled help.

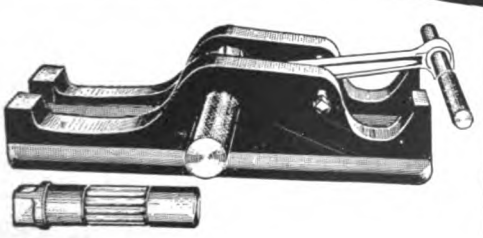
Don't send your reboring, the most profitable and important part of the work, out to others. Do it yourself and double your profits.

The STORM Valve Port Renewing Outfit produces *new* valve systems on old Ford motors. The STORM Main Bearing Babbitting and Boring Tool makes *new*, *accurate* main bearings on Ford and Fordson motors.

Fill out the coupon—let us send you further particulars.



Main Bearing Babbitting and Boring Tool



THE STORM CONNECTING ROD BEARING REAMER, JIG AND STRAIGHTENING GAUGE.

The Storm Piston Vise

STORM MFG CO.
Department S
MINNEAPOLIS MINN.

STORM Mfg. Co.
Dept. S
Minneapolis Minn.

Send us catalog. We are interested in—

STORM Cylinder Reboring Machine.

STORM Piston Vise.

STORM Valve Port Renewing Outfit.

STORM Connecting Rod Bearing Reamer, Jig and Straightening Gauge.

STORM Main Bearing Babbitting and Boring Tool.

Name .....

Address .....

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SCORED CYLINDERS

Repaired by "Lawrence Patent Process" with Silver-Nickel Alloy, fused electrically. No warping or enlarging of bore. Same piston and rings fit. All work absolutely guaranteed. Reshipped 24 hours after received. Endorsed by all manufacturers. Also burnt and oil scores repaired. Plants in all principal cities.

Established 1862
L. LAWRENCE & CO.
SAN FRANCISCO, 116 Hyde St. — LOS ANGELES, 1030 South Grand Ave.
All infringers will be prosecuted to full extent of the law.

Spooner's Annual Show Directory.

The sixth annual directory of the New York National Automobile Show, January 3-10, published by the Detroit Free Press, "Michigan's Greatest Newspaper," and compiled by F. Ed. Spooner, On-the-Spot editor of Automotive World, the daily feature of the Free Press, is out. Including the covers, it comprises 60 pages of vital information. Particularly will it save many thousand dollars' worth of cash and time to those desiring to know who's where. Arranged alphabetically are the names of exhibiting concerns, their personal representatives, and the hotels at which they may be found. Addresses of hotels and their phone numbers; a list of national associations and their officers; a list of the week's events; a list of shows and their dates; and other valuable information, are in the book. A similar directory is to be published in connection with the Chicago show. Something useful happened when On-the-Spot Spooner was born.

* * *

Growth of Maibohm Motors Plant.

In the summer it is—or was—used for the purpose of ragging to the tune of syncopated symphonies. Now it's used for storing materials used in the production of 25 Maibohm sixes every day, in the factory of the Maibohm Motors Co., Sandusky, O. Additional dry kiln and loading platform space, totaling 30,000 square feet, also has been found necessary, though the new factory is barely a month old. A half-mile test track and 1000 feet of new railroad side track have been made part of the plant. The jazz emporium is on Sandusky Bay, near the factory.

* * *

New Jackson Six for 1920.

The new 1920 Jackson Six, manufactured by the Jackson Motors Corp., of Jackson, Mich., is claimed to be a remarkably easy-riding car. It is of low-hung construction, with semi-elliptic springs of chrome vanadium steel. Wheelbase is 121 inches, weight is 3,000 pounds. The Continental engine gives 38 horsepower at 2,000 r. p. m.. Other details are Stewart vacuum system, Stromberg carburetor, a superstructure frame, Salisbury axle with turn-buckle support, and Auto-Lite starting-lighting equipment.

* * *

Portage Adds to Plant.

The Portage Rubber Co., Akron, O., will erect a new $200,000 building, concrete and three-story, to be added to its plant. Payment of the regular 3 percent quarterly dividend on Nov. 15 was recently authorized.

Davis Is Eisemann General Manager.

Charles Ethan Davis has been appointed general manager of the Eisemann Magneto Corp., Brooklyn, N. Y., succeeding W. E. Steinback, resigned. Mr. Davis is a graduate of Worcester Polytechnic Institute, and during his connection with the automotive industry has been sales manager of the Pratt & Whitney Co., Hartford, Conn.; works manager of the American Locomotive Co.; general manager of the Warner Gear Co., Muncie, Ind.; general manager of the automobile department of the American Locomotive Co.; manager of the Walco Co., Providence, R. I.; general manager of the Simplex

CHARLES ETHAN DAVIS,
General Manager Eisemann Magneto Corp, Brooklyn, N. Y.

Automobile Co., of New Brunswick, N. J., and recently acting as a member of the technical section of the Army War Claims Board at Washington, D. C., from which service he was released to accept the position of general manager of the Eisemann plant.

* * *

Joins United & Globe Rubber.

W. McArthur has been appointed Western division sales manager for the United & Globe Rubber Co., of Trenton, N. J. He was formerly associated for eleven years with the Thermoid Rubber Co., of the same city.

* * *

Dewey Heads Lexington Sales.

Jay Dewey has been made director of sales for the Lexington Motor Co., of Connersville, Ind. He served for three years as manager of the company's branch house in Kansas City, Mo., then returned to the factory to become district sales manager.

Eaton Axle Co. Organized.

With capital approximating $5,000,000, the Eaton Axle Co. has been organized in Cleveland, O. Erection of the first factory unit is to begin soon, and marketing about June. The president is V. V. Torbensen, who is also its chief engineer. He invented the Torbensen axle and was a founder of the Torbensen Axle Co. J. C. Eaton is general manager. He was president, also a founder, of the Torbensen Company, which started in a small New Jersey shop, moved to Cleveland, grew rapidly, and today is gigantic.

The new company's product will be based on a new invention by Mr. Torbensen, eliminating, it is claimed, the outstanding objections to passenger car and motor truck axles. Mr. Eaton states two axles will be made—one conventional passenger car axle of bevel gear type, the other for motor trucks of internal gear design, all gears in oil.

The product is to have a national advertising campaign. The first year's output is set at 200 sets for passenger cars and 100 for trucks, per day. Contracts for the year's product are said to have been let already.

* * *

Gardner Ready for 12,000 Cars.

The Gardner Motor Co., of St. Louis, Mo., has purchased from the General Motors Co. the Chevrolet assembling branch in St. Louis. Production will be started immediately on the Gardner four-cylinder car, 12,000 cars a year at the start. The former Chevrolet branch has an output capacity of 40,000 cars. The company has really bought back its old property, the plant being sold by the Gardner family to General Motors a little more than a year ago.

* * *

Cassidy Sells Sterling Varnish.

The Edward A. Cassidy Co., of New York City, has arranged to act as sales department of the Sterling Varnish Co., of Pittsburgh, Pa., manufacturer of insulation material used on electric wiring. At the same time the Cassidy organization will discontinue as sales representative for the Rajah Auto Supply Co.

* * *

Gotfredson Still With Saxon.

Benjamin Gotfredson remains president of the Saxon Motor Car Co., of Detroit, reports concerning his resignation to give all his attention to other interests being premature.

* * *

Cameron Looks to Middle West.

The Cameron Motors Co. plans to establish a factory somewhere in the Middle West. The plants in Connecticut will be continued.

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Geo. J. Hoskins Australian Front Drive

Statement of the Inventor G. J. Hoskins, M.I.M.E.

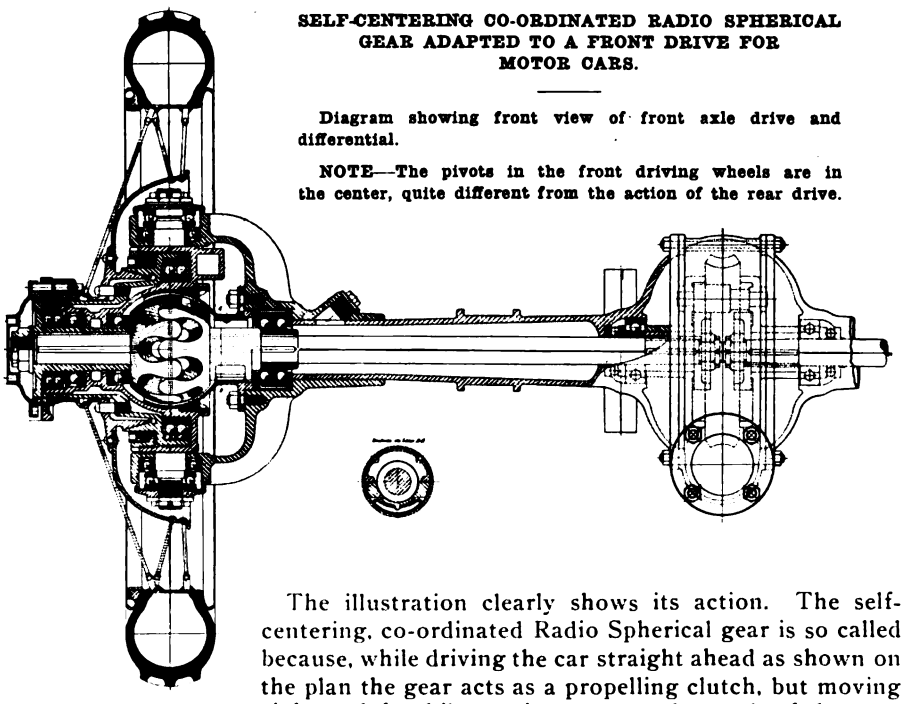
THE Front Drive and Steering problem is one that has engaged the close attention of inventors and engineers ever since the first appearance of the motor car. The great loss of life caused by accidents through skidding renders the problem one of the very highest importance, and over 500 patents have been taken out for its solution. Many inventors have given the matter up, holding that by no mechanical means can skidding be prevented. I maintain that those who take this view of the question cannot have studied the matter correctly. Every skid the rear-driven car makes is merely its mute demand that the propelling power should be put in its proper place (at the front of the car), and driving and steering it from that point. The driver then feels he is handling something responsive, almost alive, the rear wheels following or being drawn to the track of the front wheels with a dead certainty, a matter of cause and effect, that is to say, if the driver feels the least tendency for the back wheels to sway he instantly pulls them into line by a touch of the steering wheel and slightly accelerating the front wheels; the car then like a good horse obeys the will of its master, who holds complete control. Running up hill swaying of the rear wheels is out of the question. In the front drive the pivots in the front axle being in the center of the driving wheels the car travels along as steadily at 45 miles per hour as it does at 5 miles per hour, there being NO CAUSE for anything else. Rear-driven cars have had a very long run, but I agree with those engineers of Europe and America who look upon it as a very unsatisfactory machine, and believe the front-driven and steered car will be the one of the not-far-distant future. The motor car like the aeroplane is here to stay and its improvement is very desirable. While touring in England and Wales 14 years ago we often narrowly escaped disaster through our car skidding on the slippery roads, and I fell a victim to this most alluring, I think, of all mechanical problems, and commenced its study in my spare time when not designing machinery for our iron and steel manufacturing business in Australia. Failing with the material I had at hand, I sent overseas and obtained particulars of the lines on which other engineers had been studying the question, and found that they like myself had been trying to succeed by arranging in various ways the well-known orders or systems of mechanics. Inventors draw their inspirations from about 530 orders as I call them, of mechanism, wheel and pinion, lever and fulcrum, etc. In these orders we find all that is necessary for the perfection of the locomotive, steamship, aeroplane, etc., but nothing suitable for the front driving and steering motor cars, so we have the rear-driven car as we see it today.

This being the position and there being a missing link somewhere, I set to work and after many failures discovered what I consider to be an entirely new tooth-gear motion which I feel sure will be quite equal to all requirements providing for, among other things, the front driving and steering of motor cars.

SELF-CENTERING CO-ORDINATED RADIO SPHERICAL GEAR ADAPTED TO A FRONT DRIVE FOR MOTOR CARS.

Diagram showing front view of front axle drive and differential.

NOTE—The pivots in the front driving wheels are in the center, quite different from the action of the rear drive.



The illustration clearly shows its action. The self-centering, co-ordinated Radio Spherical gear is so called because, while driving the car straight ahead as shown on the plan the gear acts as a propelling clutch, but moving to right or left while turning corners the teeth of the gear persist in maintaining perfect rolling contact end to end, the gear being cut to dead center to its peculiar confirmation in a machine I specially designed for the purpose. When turning corners the teeth cling together very much like the interlocking of one's fingers. In action the shape of the new tooth-gear sets up a THRUST INTO GEAR so that, instead of the thrust ball races keeping the teeth into gear their function is in the opposite direction. In self-centering it accommodates itself to any springing of parts surrounding it that may take place when the car is being driven over rough ground. This I regard as perhaps the most valuable part of the invention, rendering as it does any extreme exactitude in machining its bearings unnecessary.

I do not know of any other tooth gear where the power is or can be equally applied by teeth on both sides of center of axis, acting as a clutch, and being capable of movement to right or left. The record speed of rear-driven cars over a prepared track for a short distance is about 120 miles per hour, truly a great speed, as considerable wobbling of the front wheels must necessarily take place. With the front drive this wobbling does not occur, the action being a bowling one, and there need be no limit to the speed if sufficient power were applied. With the object of drastically testing the wear and shock-resisting qualities of the new gear, an old English car was selected, its low power, 14.9 H. P., and its heavy weight, 3800 pounds, requiring constant changing of gear in street traffic or when climbing hills; the result after 20,000 miles proved highly satisfactory, there being no signs of wear, and in any weather there is no fear of skidding.

Before being altered to front drive the car ran 38 miles per hour, gasoline 15 miles per gallon. It now runs 48 or over miles per hour, gasoline 18 miles per gallon. Considerable more mileage has been obtained on tires, and the car is NON-SKID as proved by 18,000 miles test on smooth tires.

It is the intention of Messrs. Hoskins to begin manufacturing this Front Drive Axle in the United States and Canada almost immediately.—Adv.

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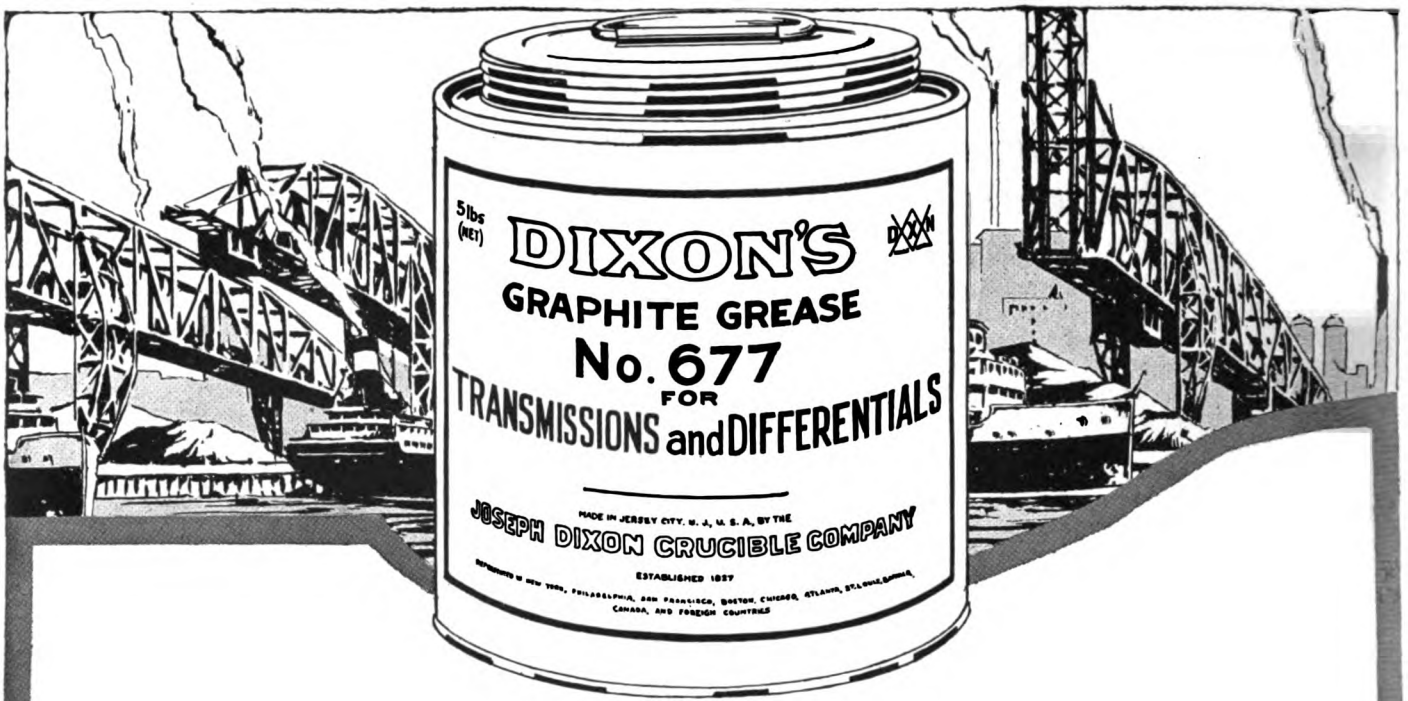

Here's what Ohio thinks

We have been handling your grease for some time past, have found it very satisfactory and highly recommend it to all our trade as being the best lubricant on the market.

We recommend the use of your number 677 for transmissions and differentials, number 676 for universal joints and your Cup Grease number 3 for wheel spindles and grease cups.

We are pleased to do business with a firm that does its business on a four-square basis.

Yours truly,

THE BANNER TIRE & SUPPLY CO.,
Cleveland, Ohio.

DIXON'S
GRAPHITE
Transmission and Differential
LUBRICANT

We are proud of such a good word from the Buckeye State —which by the way, is second in automobile registrations.

Write for booklet 50-G

JOSEPH DIXON CRUCIBLE COMPANY
Established 1827
JERSEY CITY, NEW JERSEY

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On guard!

To protect your profits—
To protect your patrons—

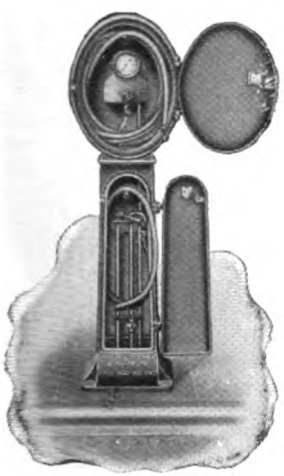
Put the Wayne sentinel on *your* curb.

See the profits safeguarded by its perfect mechanism—continuous forward movement of handle giving speed and *service;* gear-driven indicator and meter insuring accurate measure and record; sturdy, solid construction, giving freedom from leakage and loss and maintenance expense.

These things have put Wayne Curb Pumps in the lead because dealer's profits are *safe* with the Wayne on guard.

And protect your patrons. Let them see what accuracy and speed and service mean; let them realize you are anxious to protect *them*—and they will form the *habit* of coming to you for gas and oil and air. And their trade means additional trade on everything else you handle.

Wayne outfits embody the highest mechanical development along these lines: push button quantity stops; counterbalanced, cylindrical sliding housing; six inch, clocklike discharge register; graduated computing scale; galvanized suction and fill lines, and *a two-year guarantee.*



Cut No. 11
For air and water at the curb

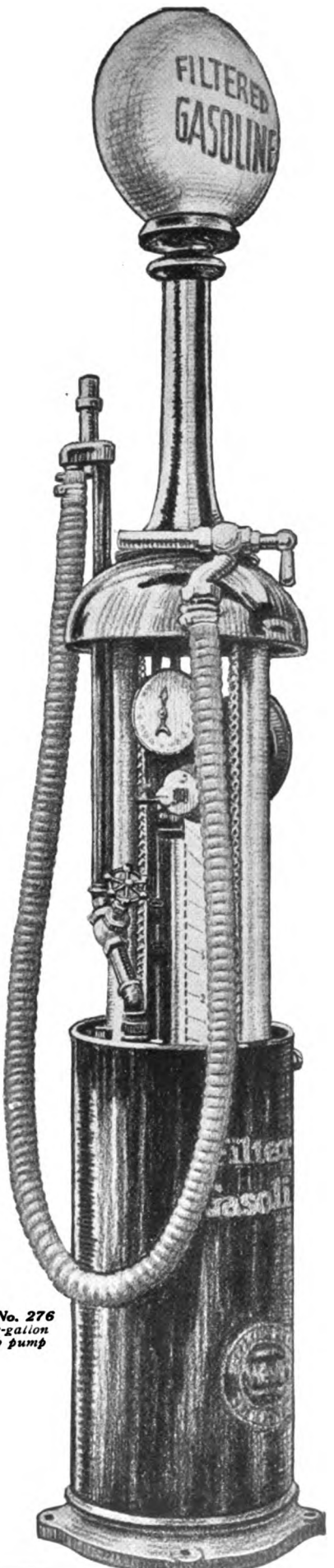
Our factory is running at full capacity in an endeavor to meet the big demand for Wayne equipment. We must keep a close watch on Wayne quality, as it is Wayne quality that has created the demand.

Wayne Products

Measuring and non-measuring pumps

Portable wheel tanks	Dry cleaning systems
Oil storage systems	Underground tanks
Oil burning systems	Storage and control
Oil filtration systems	systems for liquids.

Furnaces for metal melting, metal forging and heat treating



Cut No. 276
Five-gallon curb pump

Wayne
Honest Measure Pumps

Write for Bulletins 276 MW and 11 MW and complete information

WAYNE OIL TANK & PUMP CO., 711 Canal Street, Ft. Wayne, Indiana

Sales Offices in All Large Cities—Representatives Everywhere

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5000 National Sextets in 1920.

Simultaneously with the announcement of its new Sextet series of cars, the National Motor Car & Vehicle Corporation is planning a greatly enlarged production program for 1920. During the war the National company discontinued the manufacture of passenger vehicles and built a quantity of four-wheel drive trucks for army use. At present the final stages are being completed in changing the factory over for building the new Sextet model, and production will soon be in full swing. It is estimated that the first year's output will total 5000 cars, with chances greatly in favor of exceeding that figure.

* * *

Stutz Increases Capital Stock.

The Stutz Motor Car Co., of Indianapolis, Ind., has increased its capital stock from 75,000 to 100,000 shares with no par value. Shareholders of record on Sept. 17 will have the privilege of subscribing for the new stock at $100 a share at the rate of one share of new stock for every three shares of old stock owned.

* * *

Goodyear Pays $33,000,000 a Year.

The Goodyear Tire & Rubber Co., of Akron, O., had a daily average payroll of $110,000 during December in the Akron plant, an average of $5.50 for every man, woman and boy. The monthly payroll is $2,750,000 and for the year will total nearly $33,000,000.

* * *

Big Orders to Gray & Davis.

Gray & Davis, Inc., of Boston, Mass., has recently taken orders enough to keep it busy for months. The Chandler Motor Car Co. has ordered 10,000 starting-lighting systems, Paige a similar number, and from the new branch in France has come an order for 6,000 systems. Production is now 550 a day, will be 700 by spring and 1,000 by summer.

* * *

McClaren Will Have No Branches.

H. L. McClaren, president of the McClaren Rubber Co., Charlotte, N. C., manufacturers of McClaren J. & D. tires, has announced that McClaren tires for the coming year will be sold through distributors and dealers. The McClaren organization will have no branches. McClaren has taken this step because his past experience in tire distribution has proven that distributors can more faithfully serve dealers than branches.

* * *

U. S. Tire Men Get Bonuses.

Every employe of the United States Rubber Co., manufacturer of United States tires, who had been in the company's service all of 1919, received a bonus at the year's close amounting to 10 per cent of his or her annual salary.

* * *

Cyclomobile Output to be 10,000.

The Cyclomobile Mfg. Co., Toledo, announces production has begun on its $360 one-passenger automobile, of which it expects to produce 10,000 in 1920.

Heads Sales for General Top.

H. S. Norton has been appointed director of sales for the new General Top Co., of Cleveland, O., which was recently organized with $1,000,000 capital by C. R. Norton, former Packard sales manager, and Christian Girl, president of the Standard Parts Co.

* * *

Heads Moline Plow Advertising.

H. W. Harrington has been made advertising manager of the Moline Plow Co., of Moline, Ill. He has acted as sales promotion manager for the company for a long time.

* * *

Burd Adds to Factory.

The Burd High Compression Ring Co., of Rockford, Ill., has recently occupied a new foundry building added to its plant, which will enable the tripling of its present output of Burd piston rings.

J. E. PICKENS,
Advertising Manager Selden Truck Corporation, Rochester, N. Y.

Collins Locates Anew.

A. H. Collins, president of Collins Motors, Inc., announces that the site of the new company's plate is to be at Mineola, Long Island. The Company originally planned to locate at Huntington, Long Island, but transportation difficulties interfered.

* * *

Ludington Is New Tire Company.

The Ludington Rubber Co. will manufacture armored pneumatic tires at Ludington, Mich. A. H. Gruber heads the company as president and manager; G. A. Dorrell is first vice-president; William G. Gruber, second vice-president; B. G. Hayden, secretary; and Charles Moriarty, treasurer.

* * *

Eastman Leaves Moline Plow.

Ward L. Eastman, for seven years advertising manager of the Moline Plow Co., of Moline, Ill., has resigned to become vice-president of the Thielecke Advertising Co., of Chicago, in which firm is now owns an interest.

Portage Works Mgr. Plans Expansion.

John T. Johnson, works manager of the Portage Rubber Co., Akron, O., is working out production plans that entail the building of a large new unit to the Portage factory at Barberton, O. Work will be started soon on the new structure to comprise a header building with three wings, each of which will be 200 by 60 feet and several stories in height. Mr. Johnson is a graduate of the mechanical engineering college of Cornell University, and was for many years with the B. F. Goodrich Co. at Akron. The new Portage unit will be devoted almost exclusively to the production of cord tires, Mr. Johnson predicts.

* * *

Guy C. Core Joins Jackson.

Guy C. Core, former advertising manager of the Briscoe Motors Corp., has been appointed director of advertising and publicity for the Jackson Motors Corp., of Jackson, Mich. The Jackson program calls for 3,000 six-cylinder cars by July 1, 1920, and several hundred four-wheel-drive trucks.

* * *

To Build Skelton Four.

A contract to manufacture 20,000 passenger automobiles, of light four-cylinder type, has been closed by the St. Louis Car Co., of St. Louis, Mo., with the Skelton Motor Corp., recently organized by Dr. L. S. Skelton. Production is to begin at once, as the company is easily able to switch from war-time manufacturing for the government to the building of automobiles. According to E. B. Meissner, president, the company will soon be completing fifty or more cars a day. The regular force of 1200 workers will be increased 800. W. A. Chapman, former field secretary for the Dort Motor Car Co., is general manager.

* * *

Columbia Motors to Enlarge Plant.

J. C. Bayerline, president of the Columbia Motors Co., Detroit, manufacturers of the Columbia Six, announces that the remarkable increase in the company's business has made it necessary to acquire the plants formerly occupied by the B. F. Everitt Co. These buildings are only a few blocks away from the present factory, and will provide adequate facilities for the enlarged building program of the company pending the completion of the new plant.

* * *

Auburn Prices Advanced.

The Auburn Automobile Co., of Auburn, Ind., has advanced the price on all five Auburn Beauty Six models from $100 to $300. The five-passenger touring and four-passenger tourster now sell at $1,795; closed cars, five-passenger sedan and four-passenger coupe, at $2,775; and the two-passenger roadster at $1,845.

* * *

Moline-Knight Changes Name.

The R. & V.-Knight is the new name of the car built by the Root & Van Dervoort Engineering Co., of East Moline, Ill., formerly known as the Moline-Knight car.

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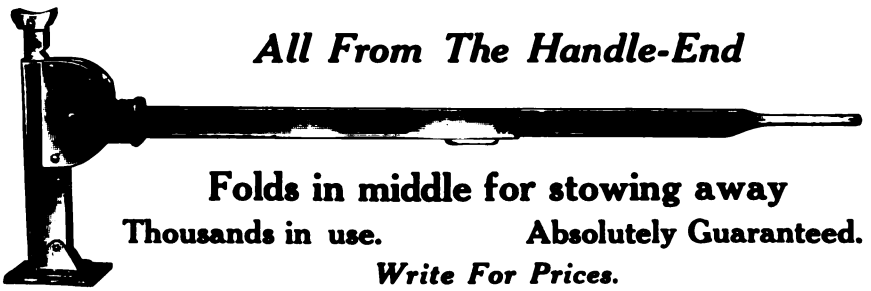
Lane's H.-C. Auto Jack

Is Placed On Handle and Pushed Under Car

PLACED OPERATED REVERSED WITHDRAWN

All From The Handle-End



Folds in middle for stowing away

Thousands in use. Absolutely Guaranteed.

Write For Prices.

Pacific Coast Representative

JOHN T. ROWNTREE, Inc.

SAN FRANCISCO	LOS ANGELES	SEATTLE
979 Monadnock Building	601 Higgins Building	503 Maynard Building

MANUFACTURED BY

LANE BROS. CO.. Poughkeepsie, New York

MANSION STREET

EVERY
COMBINATION
DIFFERENT

Able Combination Spare-Tire Lock

OFFICIALLY APPROVED BY THE NATIONAL UNDERWRITERS LABORATORIES, CHICAGO, successfully passing most severe tests. Copy of their official report mailed upon request. Write for it.

AGENTS WANTED

DISTRIBUTORS

Chas. P. Boone & Co.–503 Market St.–San Francisco
Affleck & Coleman—1106 K Street—Sacramento
J. W. Burge—1912 Telegraph Avenue—Oakland
Smith Auto Co.—Couch and Park Sts.—Portland
Chas. A. Nichols—373 South Main St.—Salt Lake

ABLE MFG. CO., Inc., 731 FOLSOM ST. :: SAN FRANCISCO

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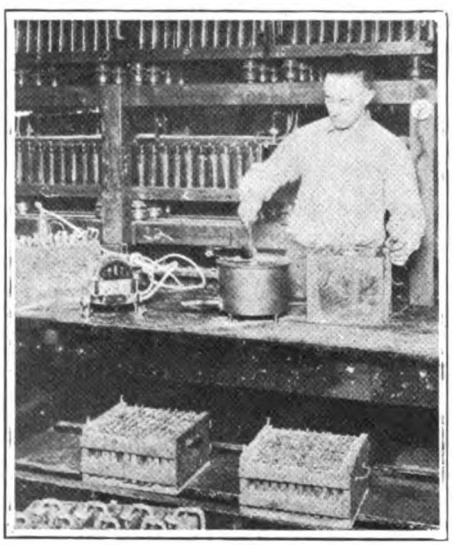
New Things in the Accessories Field

GENERAL ELECTRIC COMPOUND MELTING POT.

The General Electric Co., Schenectady, N. Y., has recently developed an electrically heated pot for melting battery compound and other compositions of like



ELECTRIC COMPOUND MELTING POT INSTALLED IN BATTERY ROOM.

nature, which should interest garage and repair shop owners and all others whose business includes the manufacturing and repair of electric batteries, as the inconveniences and risks of the gas-flame method of melting compounds are the cause of considerable annoyance due to the loss of time, waste of material and the increased fire risk.

The General Electric compound pot is made in four-quart size and is solidly built with a bail to facilitate handling. It is provided with flange around the top flush with the table. This flange extends over the inside so that the compound cannot boil over the edge, this often being the case when old compound is desired to be re-melted inasmuch as old compound is often impregnated with acids. The inner flange also acts as a lip for scraping the compound from the ladle.

The heat is provided by a three-heat unit of the cartridge type, which is inserted in a slot at the bottom of the pot. This unit is regulated by a three-point plug switch for obtaining three heats. The unit is reliable and does not require any attention of the operator. Thus a uniform, well-distributed heat is assured, and the danger of fire from over-heating and of cooling from insufficient heat during the operator's absence is eliminated. If the operator is called away he may leave the pot without any fear of its contents catching fire, and while the heat is sufficient to keep the compound in a molten state, it is not enough to cause combustion. The pot is as nearly fool-proof as such a device can be, and is clean, portable, economical, durable and eminently safe.

LIBERTY BELL SIGNAL WARNS, DOES NOT OFFEND.

A. F. Pendleton, 255 Golden Gate Ave., San Francisco, has joined hands with the Bunyan Mfg. Co., Cleveland, Ohio, makers of the Liberty Bell automobile signal, and henceforth will distribute the signal device in California and Oregon.

The Liberty Bell meets the demand for something better, more refined, more elegant, more efficient in the way of a signal. Because it has these qualities it gets the road for the driver, not by reason of mere noise, but because its loud, clear, musical note stands out, is different in a pleasing way. It employs forceful courtesy rather than harsh command.

To the ear the Liberty Bell conveys a warning and a polite request; to the eye it shows the universally accepted danger signal, the red light, which flashes when the bell rings. Thus the Liberty Bell is efficient not alone as a sound signal, but equally so as a sight signal.

The clean lines of its design make it harmonize with and add a fine decorative touch to a car, a refined individuality in appearance, in addition to its distinctive voice. It is strongly made and uses but one-fifth the current necessary to operate a horn.

The signal is made in three sizes and nine attractive styles, each complete with push button, wire and bracket for attaching. It can be easily and quickly attached to any car.

TRI-CO TIMER FOR FORDS.

Indestructable quality is claimed for the Tri-Co Timer for Ford cars, manufactured by the Tri-Continental Corp., of Buffalo, N. Y. It is made of cold-rolled pressed steel, while the fiber ring is of hard Egyptian fiber, inserted in the case under pressure and dressed to a fine, smooth surface.

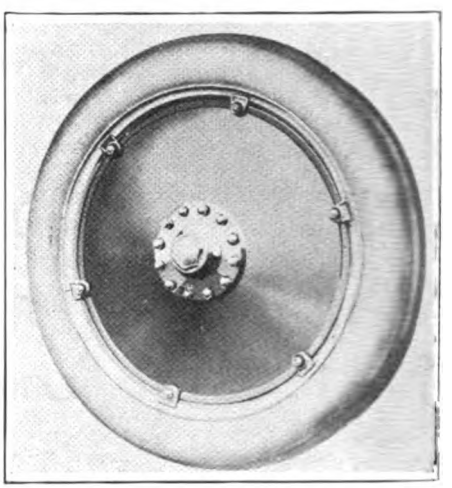
An improved dust-proof automatic spring top oiler insures a means of thoroughly lubricating the working parts, at the same time preventing any dirt or grit from entering the timer case.

A TOW LINE WITH DOUBLE STRENGTH.

The strength of the ordinary automobile towing line is found in double quantity in the Au-To-To Line, according to the manufacturers, the Waite-Rhoads Co., of 1455 S. Broadway, Denver, Colo. The Au-To-To is a combination of fiber and steel cable wire, which does away with the jerk and strain that makes car towing sometimes a dangerous operation for the driver and damaging to springs and front and rear axles.

NEW DOUBLE DISC PRESSED STEEL WHEEL.

The Indestructible Wheel Co., of Lebanon, Ind., has announced recently the new Double Disc Pressed Steel Wheel for passenger cars and motor trucks. In de



DOUBLE DISC PRESSED STEEL WHEEL.

veloping the wheel thorough investigations were made through manufacturers, who, with few exceptions, stated the demountable rim to be a feature which would meet their demands of standardization.

In the new wheel the company believes it has met the six essentials of a demountable rim, strength, concentricity, weight, appearance and price.

ULTRA-GLASS ELIMINATES PERILS OF FLYING WINDSHIELD GLASS.

Headlight glass broken and scattered in collisions has very little danger to the car occupants, usually, but the sudden shattering and flying asunder of the heavy plate glass windshield often has painful and serious results. The only fault of plate glass is that it is breakable. This difficulty, it is claimed, is eliminated with the use of Ultra-Glass, manufactured by the Glass Founders Corp., of Milltown, N. J. and handled on the Pacific Coast by the Western Agencies Co., 285 Minna St., San Francisco.

Ultra-Glass consists of two sheets of fine plate glass, between which is a layer of pyroxylin compound. The whole is welded together under great heat and pressure into one resilient, impenetrable, non-scattering unit.

Absolutely clear and indistinguishable from plate glass, when Ultra-Glass is struck a heavy blow the layers of glass will show fine hair-line cracks, but each glass particle will be held firmly in place by the layer of pyroxylin compound.

Ultra-Glass, say the makers, also minimizes the dangers of temporary blindness caused by glaring headlights on other cars approaching. The imperceptible tint of the windshield softens the glare.

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WE COULD write a book about the goodness of Kelly-Springfield tires—but why should we?

The really interesting fact about Kellys can be told in ten words: Motorists who have bought them once keep right on buying them.

Your car
can be topped with

Genuine
Pantasote
Top Material

When it is, you have a most durable, a most beautiful and the most expensive of all top materials.

PIERCE ARROW	WHITE
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Look for Pantasote label inside the top—it protects you against substitution which is not uncommon.

The Pantasote Company
Bowling Green Building
New York

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SPENCER LINE OF GUARANTEED REPLACEMENT PARTS.

The Spencer Metal Products Co., Spencer, Ohio, is making a line of replacement parts, each article of which bears the name "Spencer" and is fully guaranteed. The line comprises drive shafts and axle shafts for all popular makes of cars, connecting rods, radius rods and mufflers for Fords and

the Gilliam Take-Down taper roller bearings for light cars and trucks. No effort is spared to build quality into every Spencer guaranteed product. No machine that makes for greater accuracy is too expensive to be installed in the modern Spencer factory. Every article of the line is the equal in material and workmanship of the part it is designed to replace. This high quality is maintained by unexcelled production facilities without raising the price to the trade.

Spencer guaranteed products are sold through jobbers exclusively and a large stock is always on hand to insure prompt service. The great demand for replacement parts makes the Spencer line of instant interest to jobbers and dealers.

NEW ZENITH SPECIAL OUTFIT FOR REO.

A special Zenith Carburetor outfit complete for the Reo car is the latest development of the Lathan Auto Supply Co.'s carburetor engineers, coming as the result of a number of months study of this particular motor.

That the results obtained from this special outfit are highly satisfactory finds its best proof in the final test made before placing this outfit on the market. Greater power, easy and prompt acceleration, economy and speed were given by this outfit on the test car on which the experiments were conducted.

A great deal of attention and detail has been given in the matter of making this outfit simple and easy to install. Any garage man or mechanic can very easily make an installation without mechanical complications in a short time. The principle used in the new Reo Zenith Carburetor outfit is identical with that of the Liberty Engine Zenith Carburetor. These outfits will be placed on sale at all of the Zenith service stations located in every city and town of importance throughout the Pacific Coast.

SUNDERMAN NITRO CARBURETOR HANDLES LOW GRADE FUEL.

The Sunderman Nitro Carburetor is the answer of the Sunderman Corp., Newburgh, N. Y., to the low-grade fuel problem.

The Nitro Carburetor is of the plain tube type, very simple in construction and comprising very few parts. It employs a floating venturi for compensating the ratio of air and gasoline and a mushroom nozzle for breaking up the fuel with an atomizing effect, which produces a fine fog, or gas.

It is made in one-inch size only at present and can be used on Metz, Saxon four-cylinder, and all engines taking a one-inch carburetor. For Ford cars a special carburetor, with manifold attached, is made. The price of all Nitro Carburetors is $16.

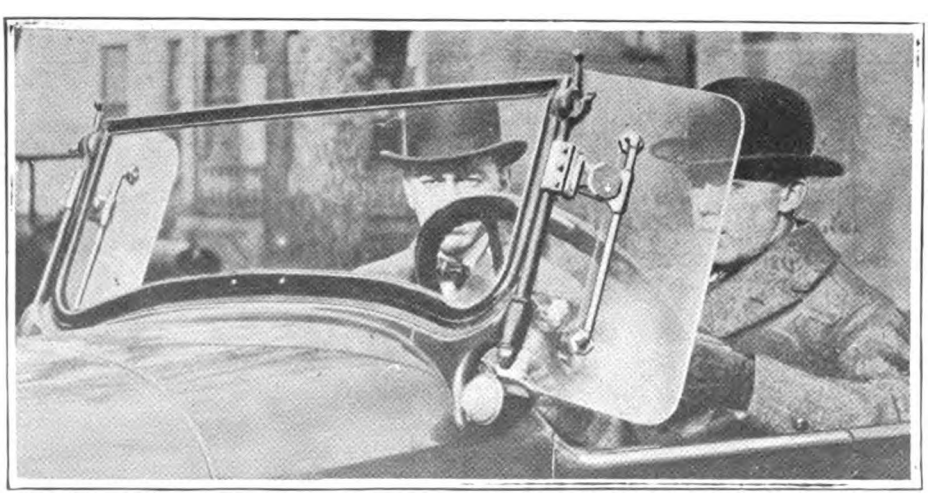
A. F. Pendleton, of 255 Golden Gate Ave., San Francisco, Cal., is distributor of Sunderman products for the Pacific Coast territory.

WESTON AUXILIARY WINDSHIELDS.

The Gartley-Weston Co. has been formed at Detroit to manufacture Weston Auxiliary Windshields. These windshield wings are made of the best plate glass, with heavy brass fixtures highly nickeled, and sell for $25 a set. They are made to fit any style of standard windshield for passenger cars.

The merit of this device, besides adding to the appearance of the car, is the fact that it is a real utility. The auxiliary windshields add 10 inches more of wind deflection on each side of the car, they are easily installed, movable in all directions and will not rattle. The manufacturer also claims they do not interfere with the use of a spotlight or side curtains. The plate glass varies in size from 10x18 inches to 10x22 inches—properly staggered for the individual car. While at present the plate glass is plain, in a few weeks the firm will be turning out the plate glass so that it contains distinctive types of engraving—with crests, owner's monogram or something designed for or suggested to the car owner.

The manufacturer sells the auxiliary windshields to the jobber complete or the sets of hardware without the plate glass.



WESTON AUXILIARY WINDSHIELDS ARE ORNAMENTAL AS WELL AS USEFUL.

GASOGRAPH INDICATES GAS SUPPLY ON DASHBOARD.

While driving, the car owner in the great majority of cases has directly under his eye the necessary information regarding the car's speed, the operation of the battery, the circulation of lubricating oil, even sometimes the time of day, as indicated, respectively, by the speedometer,

SHOWS HOW MUCH GASOLINE IS IN TANK.

ammeter, oil gauge and clock on the dashboard. Why more attention has not been given to enable him to know at all times the supply of gasoline in the tank which is to carry him to his journey's end is a mystery.

The Gasograph sets in the dashboard and is read at a glance. The trouble and delay caused by guess-work, lighting matches and reaching through the tire rack or lifting the car seat to look at the gasoline gauge or measure it with a stick is done away with by such a convenient device.

Any car with gravity or vacuum gasoline feed may be equipped with the Gasograph. It operates by air pressure, positively and surely, with no liquids, springs or floats to get out of order, and a small compensating cylinder connects with a drain opening of the gas tank, and to the gauge by a small flexible copper tube.

The Gasograph keeps an unerring indication of the exact amount of fuel supply right before the driver's eyes. On the Pacific Coast the Gasograph is distributed by the Lyman J. Potter Co., of 255 Golden Gate Ave., San Francisco, Cal.

DURSTON GEAR CORP. DOUBLES OUTPUT.

The Durston Gear Corporation, Syracuse, N. Y., has doubled the size and capacity of its already large plant within the past few months. It has also recently brought out a new model transmission, which is illustrated herewith. This design represents the most up-to-date engineering and mechanical features. The gears and shafts are nickel steel throughout. The main shaft is mounted on annular ball bearings, and the countershaft gear set is of the cluster type, rotating on a fixed shaft. All transmissions are tested in a sound-proof room to insure quiet running which is so essential in the modern motor car. All parts are carefully tested and inspected by high-grade employes. Easy shifting of gears is one of the prominent features of this new model.

MOTOR WEST reaches a larger percentage of dealers than any other automobile publication circulated on the PACIFIC COAST.

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ZEPHYR PISTONS

(PAT.)

DURABILITY POWER SPEED ECONOMY

ZEPHYR pistons hold many records of world interest since 1910 when they established world's record of 100 miles per hour for three consecutive hours.

ZEPHYR pistons were used in the Atlantic flight by Alcock-Brown, also in the R34 in its 6,000 mile flight from England to America and back.

The World's Best Piston Since 1910

The
Wridgway Company
Inc.
HALLSTEAD, PENNA.

Send for Booklet

DURABILITY POWER SPEED ECONOMY

U.S.PATENT
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OF SERVICE

The Superservice *of* Ahlberg Bearings

Ahlberg Reground Bearings are above the average in all respects.

They are manufactured in a modern factory where scientific methods rule—where every man is interested in making our product the best.

Ahlberg Bearing Company

325 West Pico St. Los Angeles

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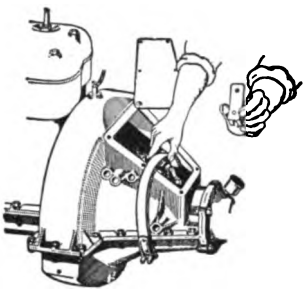
QUICK DETACHABLE TRANSMISSION BANDS.

There are many different kinds of devices manufactured which save the Ford owner time. The Gemco Mfg. Co., Milwaukee, Wis., is making a Quick Detachable Transmission Band that should become



very popular. The job of putting in new transmission bands is very tedious and generally takes at least five or six hours. The worst part of the task is taking down the transmission.

With this new Quick Detachable Transmission Band it is not necessary to tear down the transmission when replacing the band. Of course in the first installation the transmission has to be taken down to remove the old style of band, and thereafter all that is necessary is to remove the detachable ear (patented feature), pass it around the transmission or brake drum, slide the detachable ear into the slots and then draw the cross bolt tight.

The band is made of heavy spring steel and is lined with the best grade of brake lining. Attached to it are two drop-forged ears, one of which, as explained, is readily detachable. This is the big feature and explains why Gemco Quick Detachable Bands are so popular.

LIGHTFORD PISTONS FOR FORD CYLINDERS.

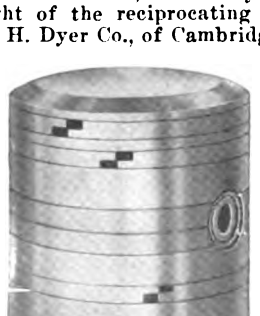
The Lightford Piston is similar in design and construction to the regular Ford piston, but is one pound lighter and, according to the makers, reduces by 4 pounds the weight of the reciprocating parts.

The G. H. Dyer Co., of Cambridge, Mass., has manufactured three types of lightweight Ford pistons in the past; but they do not hesitate to say that the present Lightford is 50 per cent better mechanically.

Re-grinding the cylinders and fitting in the new high-grade pistons will make the engine run better than ever before. To the hundreds of garagemen using their earlier lightweight pistons the G. H. Dyer Co. guarantees the new Lightfords as being 25 per cent better.

They have all the advantages of alloy and aluminum pistons without the bad features of slapping, oil throwing, seizing to cylinder walls and poor compression.

Lightford Pistons are made in standard and oversizes to fit all Ford cylinder dimensions. They list at $3.50, complete.



LIGHTFORD PISTON.

BERRY FLASH PLUG IS POINTLESS.

The Berry Flash Plug, according to the manufacturers, is not to be considered as a "spark" plug. Ignition troubles, declares the Francis-Stoll Co., of 1235 Van Ness Ave., San Francisco, have come because plugs heretofore have been "spark" plugs. Instead of a spark, the Berry plug causes a flash. The electric current entering the cylinder is assisted in reaching its maximum spread and the result is a complete and powerful explosion of the gas.

The ordinary point-to-point type of spark gap in the ordinary plug has the disadvantage of burning off or spreading; in the Berry Flash Plug both electrodes are flat surfaces, not points. Electrodes are of pure malleable nickel; the insulation is heat and oil-proof and will not crumble under accidental blows of any tool. The Berry Flash Plug is made in standard ⅞-inch sizes; also ⅞-inch long and ½-inch standard and long; four sizes in all.

RAYDEX LINES HANDLED BY CHARLES F. U. KELLY.

The Raydex Mfg. Co., of Brackenridge, Pa., has announced that all sales of Raydex automotive products will be directed in future by Charles F. U. Kelly, Inc., with headquarters at 1834 Broadway, New York. These products include the Raydex Glareless Glassless Lens, the Raydex Spotlight and the Raydex Transmission Liners for Ford cars.

Charles F. U. Kelly, Inc., with its organization radiating from branch offices in Chicago, Kansas City and San Francisco, is well equipped to give immediate national representation.

The Raydex Lens differs from ordinary lenses in being an all-metal, cellular device, containing thousands of highly polished metal reflectors which deflects all rays normally rising above the 42-inch level, so that an even, clean-cut illumination is obtained from the front of the car to a distance of 500 feet or more.

The Raydex for head-lamps is inserted in the upper half of the lamp, behind the regular glass door, and contains about 9 square feet of polished reflecting surface. The spotlight has a full circular lens, concentrating all the normally divergent rays into one powerful beam. Raydex Lenses have been favorably passed on by states with most stringent requirements for non-glare devices.

The Raydex Transmission Liner is a thoroughly tested device for re-lining transmission brake bands in Ford cars without replacing any of the original Ford equipment. It is merely a thin slidable band of tough half-hardened cold-rolled steel, which may be forced between the transmission band and drum through the hand-plate without removing the transmission cover.

NEW BURD QUICK-SEATING PISTON RING.

There has long been a demand from garages and repair shops for a piston ring having the quick-seating feature of a narrow ring, combined with the wall-pressure tension of a wide ring. These advantages are combined in the new Burd Quick-Seating Piston Ring, which "gets to work" immediately upon installation.

The Burd Quick-Seating Ring is of the step-joint type, the outer surface which comes in contact with the cylinder wall having raised edges which wear down quickly, seating perfectly with a glass-like surface in harmony with the cylinder wall, in about 45 minutes. The slow laborious "lapping in" and delay before the owner can use his motor are thus eliminated. A channel, .002 of an inch in depth, is in the center of the face and carries an oil film that prevents cylinder wear during the seating process.

Burd Quick-Seating Rings are made in all sizes and oversizes, for practically every make and model of motor, and are medium in price, sizes up to 4 inches inclusively retailing at 60 cents each, and sizes over 4 inches and up to 5 inches, inclusive, 70 cents each. They are made of the highest quality dense tough gray iron, filtered so that all impurities are removed to insure absolute uniformity of metal texture, maxi-

BURD Quick-Seating Piston Ring

mum strength and resiliency, prompt and perfect seating and freedom from flaws, porous spots and other defects. They are ground to micrometric accuracy of .00025 of an inch, are exceptionally resilient, exert an unvaried wall pressure and will not break down under cylinder heat.

DAVE BUICK CARBURETOR.

A perfect, non-carbon-forming mixture at all speeds, no springs, no needle-points nor adjustments, quick get-away, wonderful flexibility and nothing to get out of order are among the strong points of excellence claimed for the Dave Buick carburetor.

A flexible venturi is one of its main features, approved by many engineers as something they have been seeking in carburetor design ever since the first automobile was conceived.

The air and fuel are not divorced from one another in the Dave Buick carburetor, but work in an absolute unit, independent of the driver's control, giving a carbonless mixture at all speeds and making for 100 per cent performance.

The makers of the Dave Buick carburetor are the David Buick Carburetor Co., incorporated for $3,000,000, who will enter into production at their New York plant in March. The Dave Buick is the invention of D. D. Buick, founder of the Buick Motor Co., of Flint, Mich., and inventor of the valve-in-head engine.

A Dave Buick carburetor fed the fuel to the engine of the stock model Briscoe car in setting the most unusual gasoline average of 28.8 miles to the gallon on the Los Angeles-to-Yosemite economy run last year and the recent performance under more ideal conditions around Pomona, Cal., where the Briscoe averaged 51.2 miles to the single gallon of gasoline.

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HI-TEST
LUBRICANT

WILL SATISFY YOU AS NO OTHER LUBRICANT CAN

It will pay you to investigate the merits of this product.

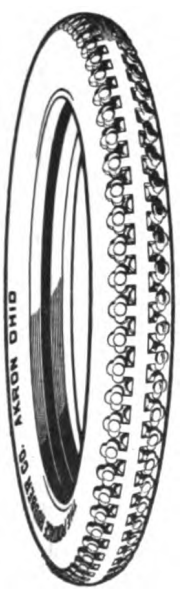
Noisy gears, leaking, gummy transmissions and differentials are eliminated through its use.

It does not stiffen or cake in cold weather.

Its vicocity assures perfect lubrication of parts and engaging surfaces.

Manufactured by
United Products & Sales Corp.
512 Second St. San Francisco, Cal.

Service Stations
819 Ellis St. San Francisco, Cal.
91 Twelfth St. Oakland, Cal.



PORTAGE DAISY TREAD TIRES

Extra rubber and extra fabric, built layer by layer into a tremendous strain-resisting unit—

this means more mileage.

Better facilities, better workmanship, closer inspection—this means **Portage Quality** — more mileage.

Portage Tires carry profit advantages for the dealer in addition to the normal profits obtained from ordinary tires.

Write for the Portage Agency proposition.

Factory Branches

745 Mission Street
San Francisco, Cal.

410 West Pico Street
Los Angeles, Cal.

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Says Jem Coe,

"Those New Spring Bumpers Seem to Enjoy Taking Bumps"

Motorists who have equipped their cars with the new Gemco Spring Bumpers don't have to worry about bumps. The car is protected front and rear by bumpers that are COLLISION-PROOF and even the bumpers themselves are practically unbreakable. Gemco dealers this year have sold more bumpers than ever before. Motorists are quick to see the advantages of the new spring type—supple curved springs that take up the shock and protect both car and bumper.

GEMCO
Spring Channel Bumper

Fits front and rear of standard cars. Combines the neatness of the Channel Bar with the efficiency of Curved Spring Brackets. Retail prices, Nickel Finish, $10.54; Black Finish, $9.48.

GEMCO
Spring Bumper

Universally attachable; fits standard cars front and rear. The strongest and most efficient bumper ever designed. Retail prices, Nickel Finish, $14.00; Black Finish $12.50.

Most bumps come from the rear—and bumps in the rear hurt. Don't be content to sell just one bumper to a motorist. See that he protects the rear of his car as well.

GEMCO
Fender Pan Bumper

An enclosed spring type for front and rear of standard cars. Easy to attach; does not interfere with splash pans or fenders. Diamond or channel bar. Retail prices, from $9.00 to $12.50. Hundreds of dealers find Gemco Bumpers their best sellers. If you are not stocked, ask your jobber or write direct to us.

GEMCO MANUFACTURING CO.

725 So. Pierce St., Milwaukee, Wis.

Western Trade Notes

Spokane, Wash.—Walter S. Melcher has bought the Standard Garage from Mrs. Lillian Johnston and will erect a two-story plant next spring.—The sales building of the Interstate Motor Co., 1313 First Ave., is being enlarged by the addition of a second story, costing $20,000, to accommodate increased business on Velie, Moon, Dort, Allen and Briscoe cars.—The Northwest Highway Trailer Co. has leased quarters at Third and Wall Sts.—The Nelson-Rush Auto Co., used car dealers, will have a new garage erected for them at W809 Second Ave., costing $70,000.—The Spokane Armature Winding Works has been opened at 1 Division St. by R. B. Noble, W. H. Peterson and Ed. M. Raney.

Kent, Wash.—One of the most modern garages in the Northwest has been opened here by the Kent Motor Car Co., new Buick car and GMC truck dealer.

Bellingham, Wash.—Holland & Williams have taken the Whatcom county agency for Elgin Six and Stephens Salient Six cars.—The Kulshan Motor Co., capitalized at $25,000, has occupied its new garage at Twelfth and Harrison Sts., which cost $20,000 to build.

Friday Harbor, Wash.—L. M. McDonald and C. J. Smith have opened the M. & S. Garage.

Mt. Vernon, Wash.—J. Andrews and J. Parsons have opened on Second St. and will handle Wicks and Dreadnaught tires.

Seattle, Wash.—C. R. Williams has been made sales manager of the automobile department of the Frank Waterhouse Co., which will continue to handle Marmon cars and Signal trucks.

Saticoy, Cal.—Morris Barnard and J. Alderman have bought the Saticoy Garage from McBurney & Craft.

Inglewood, Cal.—The R. M. Joyce Vulcanizing Co. has moved to 130 Commercial St.—The Inglewood Supply Station has added a line of tires and vulcanizing facilities.

Whittier, Cal.—J. D. Stall has opened one of the most modern and complete Exide battery stations in California.—The Acme Tire Shop and Vulcanizing Works has opened on Philadelphia St.—The Whittier Service Station has opened at Philadelphia St. and Compton Ave.

Alhambra, Cal.—C. W. Stump has taken the Exide agency here.—A. L. Robinson, handling Goodyear, Kelly-Springfield and United States tires, has located in his new store on Main St.—The A. C. Anderson Auto Painting and Decorating Works has located on S. Garfield Ave.

Duarte, Cal.—George's Supply Station has enlarged and expanded their business, now doing repair work in addition to their gasoline trade.

Pasadena, Cal.—John P. Davidson is now Cole Eight dealer in this section; he is located at 89 N. Marengo Ave.—Eugene C. Coolidge, sales manager of the Kendall Auto Co., 100 E. Union St., has taken the Liberty Six agency.—C. J. Damm is now operator of a large and finely equipped paint shop at Broadway and Union St.

Long Beach, Cal.—The Kay-Burbank Co., Exide battery distributor, is now located in its new quarters at Fourth St. and Locust Ave.

Huntington Beach, Cal.—L. R. Lung has opened the Huntington Park Auto Electric Station on Pacific Blvd.—E. E. Rutledge has moved his automobile top shop to a new location on Pacific Blvd.

Manteca, Cal.—George Thornton and W. D. Logan have taken the Briscoe agency.

San Juan, Cal.—The Mission Garage has been sold by J. Nicoladies to J. C. Nicoladies.

Bakersfield, Cal.—The Williams Motor Co. has leased a $15,000 garage to be erected on Chester Ave.—F. Taylor has sold his interest in the Crescent Garage to C. E. Nugent.

Coeur D'Alene, Ida.—The Kootenai Motor Car Co., managed by A. L. Earin and C. W. Rudolph, has opened here in large garage and sales quarters; it will handle Nash and Reo cars and Mack trucks.

Tucson, Ariz.—Bailey & Williams have bought the agency of Miller Brothers and the Inland Garage and will handle Essex, Maxwell and Hudson cars.—The Motor Trades Association has been formed here; the officers are T. R. Lucas, president; Monte Mansfield, vice-president; and B. A. Snow, secretary.

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Hindview Auto Mirrors

STYLE "B"

Hindview

FOR INSIDE OF CLOSED-BODY CARS.

JUST WHAT MOTORISTS HAVE BEEN LOOKING FOR

Style "B" is inside—out of the weather—nearer to the driver's eye and gives a vision directly in back of the car.

It is fastened by wood screws to the roof, or frame of front window, on the inside of Closed-Body Cars.

Has ball joint and is furnished in all standard finishes. Lens mirror recommended due to limitation of view through rear window.

Send for Folder No. 19 describing the entire line.

A. E. MOHRIG, 340 Phelan Bldg., San Francisco, Cal.
Pacific Coast Representative

Kales Stamping Company

444 West Lafayette Blvd. DETROIT, MICH.

See Our Exhibit at the Chicago Passenger Car Show.

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Write for information and details regarding space.

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TOWER TRUCK
STRENGTH + SERVICE

"The Freight Car of the Highways"

The Tower constitutes a signal achievement in motor truck construction. A sturdiness embodied in TOWER TRUCKS defies the most adverse road and load conditions. Their rapid adoption proves that truck buyers know motor truck values.

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Minneapolis • Chicago • Indianapolis
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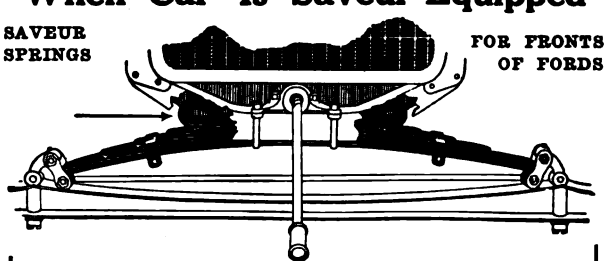
TOWER MOTOR TRUCK CO.
GREENVILLE :: MICHIGAN

No Ford Spring Trouble When Car Is Saveur Equipped

SAVEUR SPRINGS

FOR FRONTS OF FORDS



THE HARDEST BLOWS HAVE NO EFFECT ON THE SAVEUR

This perfected Ford Front Spring withstands the severe blows that flatten ordinary plain springs. The open loops absorb the added strain and positively eliminate spring breakage.

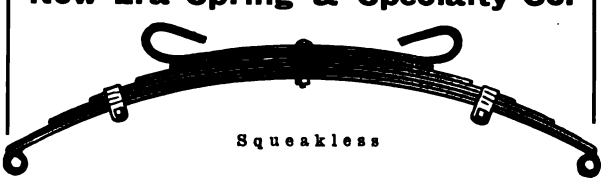
Saveur Ford Front Springs are oil tempered throughout their length and graphited between leaves, which gives them a two-years' lubricating service.

The Saveur saves unnecessary breakage of radius rods, bent axles, steering knuckles, etc.

Saveur Ford Front Spring, complete.....$6.50
Saveur Open Looped Leaf Only.....$2.50
Quickly fitted on any Ford Spring.

Write for complete circular and nearest jobber's address.

New Era Spring & Specialty Co.



Squeakless

1190 Hamilton Ave., Grand Rapids, Mich.

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CLYDESDALE MOTOR TRUCKS

The "Driver Under the Hood," Clydesdale's automatic controller, is not an ordinary governor. It automatically and skillfully regulates the flow of power to immediately meet every changing road or load condition. It keeps the speed constant, prevents racing of the motor and clashing of gears.

1 to 5 Tons Net Load

The Clydesdale Motor Truck Company
CLYDE, OHIO

PARAB-O-LIGHT
"The Lens That's Right"

Tested and Approved in California.

The lens that conserves the energy from the storage battery by producing a perfect driving light when used with bulbs of 15 to 20 C. P.

Prices: $3.25 to $4.25 per pair.

THE J. D. FRENCH COMPANY
30-32 DAVIS STREET
PACIFIC COAST DISTRIBUTOR

THE ZORGER LENS COMPANY
CHAMPAIGN, ILL.

BARNEY OLDFIELD TIRES

"The Most Trustworthy Tires Built"

THE OLDFIELD TIRE CO.
BARNEY OLDFIELD, *President*
CLEVELAND
Export Department: 42 Broadway, New York

JUMBO The Complete Truck

THE COMPLETE TRUCK

Full Line of Sizes Completely Equipped. No Extras to Buy Except Body.

NELSON MOTOR TRUCK COMPANY
SAGINAW :: MICHIGAN

San Francisco, Cal.—George A. Olson, recently of the Marine Corps, has been made retail sales manager for the Western Motor Co., in charge of Maxwell sales.—The Thomas J. Powers Tire Co., Market and Van Ness Ave., has been appointed agency for Firestone tires.—George Reese has been made service manager for the California Motor Sales Co.—A. Besso has bought the Franklin Tire & Vulcanizing Co., 1596 Market St.—W. Wayne Davis and W. W. MacDonald have formed the Easy-Filled Grease Cup Co. to manufacture Easy-Filled Grease Cups.—The Automotive Specialty Co. has been formed with $100,000 capital stock by Frank McCurtain, H. W. Glensor, L. M. Taylor, E. L. McDonald and J. A. Stanford.

Oakland, Cal.—To manufacture and sell airplanes, watercraft and automobiles, the Durant Motor Corp., capital, $50,000, has been incorporated here by R. C. Durant, Wickham Havens, A. L. Warmington, C. M. Stevens, H. McKnight, F. Lowry and J. E. Appleby.—The United States Motor Co., recently formed to take the United States truck agency, has added the Stearns car agency for Alameda and Contra Costa counties.

San Mateo, Cal.—Wild & Curyea, San Mateo county agents for Kissel and Maxwell cars, have opened a branch here.

Cupertino, Cal.—Charles M. Bare has taken charge of the Cupertino Garage.

Petaluma, Cal.—Jack Cline has bought his partner's interest in the Studebaker and Scripps-Booth car and Republic truck agencies.

Watsonville, Cal.—The Santa Cruz and Monterey county agency for Hudson and Essex cars has been taken by Dan F. Leddy here, with a branch at Salinas.

Point Arena, Cal.—F. E. Johnston and Elmer Hanes have leased the Halliday Garage.

San Jose, Cal.—John F. Dryer, Empire car agent, has added the Crow-Elkhart.—L. O. Jack has bought the interest of E. L. Ray in the Standard Garage.

Vallejo, Cal.—The Coronado Garage has taken the Essex car agency.

Seattle, Wash.—Roy Stuart has been made factory representative of the Chevrolet plant at Oakland, Cal., for the Western Washington territory; he succeeds Charles L. Dunham, who has gone to manage the Chevrolet sales branch in Portland.

Bellingham, Wash.—The local Buick agency has been reorganized under the name of Iddins-Hunt-Buick Co. and will continue to handle Buick cars and GMC trucks for Whatcom county.—The Elk St. Garage has been made the Saxon car agency.

Everett, Wash.—M. Putman has formed the Saxon Sales & Service Co. here to handle Saxon cars.

Vancouver, Wash.—The Southern Washington Truck Owners' Association has been organized here with T. H. Joy temporary chairman.

Centralia, Wash.—L. E. Titus has taken over the business of St. John & Titus, operating Ford agencies and garages here, in Olympia and Tenino.

Duvall, Wash.—Chipman Brothers have taken the Saxon agency.

El Centro, Cal.—The Imperial Valley Motor Co. and the Hodges Cattle & Loan Co. have combined into one firm, the Hodges Loan & Automobile Co., continuing to handle Studebaker cars and Cleveland tractors.

Seattle, Wash.—Leavens & Howard, Pacific Northwest distributors for the Sewell cushion wheel, have opened a branch here in addition to their headquarters in Portland, Ore.

Oxnard, Cal.—John F. Riley has bought sole ownership of Riley & Meyer, Chevrolet and Scripps-Booth dealers for Ventura county, from W. J. Meyer, changing the firm name to John F. Riley Co.

Orcutt, Cal.—George Rice has bought a half interest in the Orcutt Garage.

King City, Cal.—E. N. Harris and H. D. McKenzie have bought the garage and transportation business of Wood & Nelson.

Hayward, Cal.—C. H. Conser has bought out his partner, J. C. Hurley, in the Hayward Garage.

Martinez, Cal.—R. W. Bender has sold the Central Garage to J. S. Maguire.

Gilroy, Cal.—Tucker Brothers will have a two-story garage built for them.

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ROEDDING SIGNAL TAIL LIGHT
TRADE MARK

The Foresighted Motorists' —— Reliable Warning ——

That Operates Without Removing Hand from Steering Wheel

Avoid accident, Day or Night, Fair or Stormy weather. A Clear, Simple Warning is a necessity with traffic as congested as it is today.

Tell the other driver JUST WHAT YOU ARE GOING TO DO

Button
Attached to Steering Wheel Flashes All Signals.

The Roedding Says Either:
STOP
LEFT
RIGHT
BACK

Regular Car Battery INSTANTLY Operates THE ROEDDING.

An ever increasing demand for the ROEDDING SIGNAL TAIL LIGHT explains WHY this perfected DEPENDABLE SIGNAL is answering every requirement. *Write for agents' and dealers' proposition.*

Grand Rapids Brass Company
90 Scribner Ave., N. W. Grand Rapids, Mich.
Pacific Coast Representative
J. H. SMITH SALES COMPANY
936 South Grand Ave. Los Angeles, California

Think this over!
The strength of a chain only equals its weakest link and the best engine or machine built is useless if a vital nut jars loose.

DRAKE LOCK-NUTS
TRADE MARK REGISTERED U.S. PAT. OFF.

"NEVER JAR LOOSE"

WRITE FOR SAMPLE

Standard equipment covering vital points by many of the most careful manufacturers.
Try them on your upkeep.
Specify on all your new equipment—

DRAKE LOCK-NUT CO.
Cleveland, Ohio (*Plants*) San Francisco, Cal.

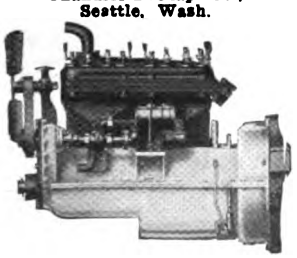
When Higher Price is Your Protection

When a motor's higher price is due to expensive, finished workmanship—fitting, running-in, adjusting, testing and rigid inspection—then that higher price is a real protection to you. It insures a BETTER motor at a much lower ultimate cost. Such is the Wisconsin—a motor that is OPERATION PERFECT when it leaves the shops.

Write for Specifications.

Wisconsin Motor Mfg. Co.
Station A, Dept. 314, Milwaukee, Wis.

Pacific Coast Distributors:
Earl P. Cooper Co.,
1310 So. Los Angeles St.,
Los Angeles, Cal.
W. F. McKenney,
68 First St.,
Portland, Ore.
Chandler-Duplap Co.,
Seattle, Wash.



Wisconsin

are helically cut and have extra wide faces, insuring silent operation and great durability. Gears are very rigidly mounted and are lubricated by a separate internal oil lead.

Kleiber MOTOR TRUCKS

Reliable—Powerful—Efficient

KLEIBER & CO., Inc.
MOTOR TRUCK MANUFACTURERS
11th and Folsom Streets,
San Francisco, Cal.

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Olive Street Garage

Authorized Rayfield Factory Service Station.

RAYFIELD CARBURETORS SERVICE STATION

OPEN DAY and NIGHT.

Tow-car service at any hour.

Repair Shop in connection.

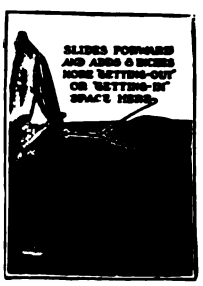
846 South Olive Street, Los Angeles

Automatic 61009. Main 7227.

Easily Operated

NEVILLE "MORE-ROOM" STEERING WHEEL

Easily Installed



Neville "More-Room" Steering Wheels are year-around profit producers for dealers.
They are an "all seasons" high-class accessory always in demand.
Motor car dealers who stock no other motor specialties are buying Neville Wheels in quantities.
There is a Neville Wheel for every make of car.
Your jobber can supply you. Write for descriptive literature.

The Neville Steering Wheel & Mfg. Co.

136 Beaubien St., Detroit, Mich.

MOHAWK

"Qualify" TIRES

There is just one simple common-sense reason why Mohawk Tires wear so well—why 85% of all car owners who buy their first Mohawk Tire become permanent Mohawk users.

We use only the finest quality of rubber and fabric, and our standards of workmanship are, we believe, the highest of any tire company.

THE MOHAWK RUBBER COMPANY

AKRON, OHIO

Jensen-King-Byrd Co. 320-24 Riverside Ave. Spokane, Wash.

Munnell & Sherrill 40 First St. Portland, Ore.

Rubber Service Co. 1023 E. Pike St. Seattle, Wash.

MORELAND TRUCKS

All Morelands burn Distillate

They are reliable, rugged and powerfu transportation units

Moreland Motor Truck Co.

1701-31 N. Main Street Los Angeles, Cal.

BEST FOR THE WEST

Los Angeles, Cal.—The Colyear Motor Sales Co. plans to increase its capitalization from $50,000 to $250,000.—H. George Smith has retired from the Ajax Rubber Co. here to enter the moving picture field—Pending the completion of their new building on Pico St. near Figueroa, Maxwell & Hoffman, Studebaker dealers, have located in the Bentel Bldg. at 1015 S. Grand Ave.—The Hovley Cushion Wheel Co. has been formed here, capital stock $500,000, by Peter P. Hovley, B. F. Coons, W. A. Coons, F. Van Vraken, F. O. Myers, Charles Arndt and G. H. Woodruff.

Van Nuys, Cal.—W. V. Scott has taken the Chalmers and Dort agencies.

Colusa, Cal.—C. W. Meri, E. A. Boyd will locate in a $10,000 garage to be built at Fifth and Oak Sts.

Colusa, Cal.—E. A. Boyd, Dodge dealer, is having a $10,000 garage built for him.

Stockton, Cal.—J. C. Skinner, Mitchell and Winton dealer, has added the Garford truck.

Los Angeles, Cal.—The Mark Trailer Co. will manufacture automobiles and trailers in a building leased at 1145 Quincy St.—The Boyle-Peabody Tire Co. are now handling Brunswick tires at 824 S. Los Angeles St.

Pasadena, Cal.—J. W. Ingledue has bought the Joseph Hagenbaugh Tire Co. on E. Colorado St.—Richard & Ross have opened a Hobbs battery station at 1204 E. Colorado St.—The Rubber City Clearing House Co. has opened a branch at 34 S. Fair Oaks Ave.

Long Beach, Cal.—The Behling Auto Co. is now handling Reo, Dort and Packard cars.

Monrovia, Cal.—Nelson & Masher, Ford dealers, have occupied their fine new sales building here.

Modesto, Cal.—H. C. Canelo has left the firm of Kerr & Canelo, Hupmobile, Stephens and Marmon dealers, to rejoin the W. J. Benson Co., of San Jose.

Holtville, Cal.—Cooper & Oakley have sold their business to the Imperial Sales Co., Inc.

San Bernardino, Cal.—The San Bernardino Motor Car Co., Studebaker dealer, has added the Cleveland tractor.

Rialto, Cal.—Kelley & Belding have opened a large modern garage on Riverside Ave.

Loma Linda, Cal.—Offill & Blackmun have opened the Colton Ave. Garage.

Riverside, Cal.—Button Brothers, county agents for the Chevrolet, will open their new garage at 1045 Main St. on Feb. 1st.—M. O. Dodge has taken over the oil and supply station at Eighth and Mulberry Sts.—W. P. Downey, of the Brown-Downey Rubber Co., Diamond tire dealer, now has an active interest in the firm.—The Sunset Battery & Ignition Works will move to West Eighth St. quarters.

San Diego, Cal.—The Automotive Sales Co. has taken the Allen car agency.

Ukiah, Cal.—Ed. Banker has taken the Briscoe and Liberty car agencies.

Laramie, Wyo.—Arthur R. Forbes has bought the Ford Garage here.

MOTOR WEST

reaches a larger percentage of dealers than any automobile publication circulated on the

PACIFIC COAST

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EISEMANN MAGNETO

For Easy Starting in Any Temperature

No other form of ignition ever devised equals the Eisemann Magneto.

For dependability under all conditions it is supreme.

EISEMANN MAGNETO CORPATION

32-33rd Street, Brooklyn, N. Y.

Chicago, 910 S. Michigan Ave.
Detroit, 85 Willis Ave., West.

BALL AND ROLLER BEARINGS

TRADE MARK SRB REGISTERED

FACTORY DISTRIBUTORS

All Kinds of Bearings in Stock

J. W. WEST COMPANY

1522 S. Grand Ave. Los Angeles, Cal.

Phone 22769

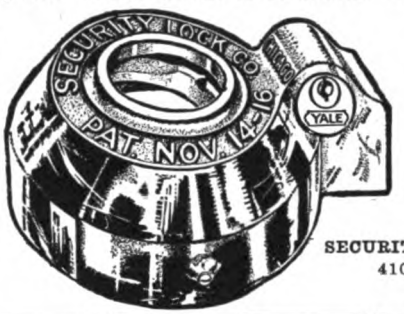
GRANT SIX

You will agree with us that the new Grant epitomizes, smartness, comfort and fine engineering. Every mechanical detail measures up to the highest expectations.

GRANT MOTOR CAR CORPORATION
CLEVELAND, OHIO

SECURITY AUTO LOCK

The original loose wheel lock for Fords. Approved by under writers. Insurance reduced 15%. Made of solid brass. Nickel plated. Easily installed in 10 minutes. No drilling. No filing.



No sawing.

No chiseling.

Price $6.50.

Western Distributors Wanted.

SECURITY AUTO LOCK CO.
410 N. Paulina St.
Chicago, Ill.

We manufacture electric testing, charging and magnetizing instruments for use in garages and service stations.

We publish the world's best book on motor car electric systems, showing wiring and circuit diagrams back to 1910. Also includes the elementary principles that you should know. Price delivered to you, $2.50.

MODEL 502 TEST SET
Price $25.00 prepaid to you.

Complete Catalog Free.

We have openings for a number of Western dealers. Write for our free catalog and dealers' proposition.

H. E. PHILLIPS & CO. Union City, Indiana
(Formerly Phillips Engineering Co. and Auto Electric Systems Publishing Co., Dayton, O.)

FOR YOUR BATTERY'S SAKE!

Use the Genco Battery Filler—keeps dirt, dust and grease out of your battery cells. The dial cap with MOVABLE INDICATOR records last date battery was filled and tested. RESULT—Better lights and never-failing starter. The dial is water and acid-proof and will last a lifetime. Genco Filler costs $2. Dealers and Jobbers write for full information and increase your profits. Manufactured only by

General Scientific Equipment Co.
North Philadelphia, Pa.
Hydrometer Manufacturers Since 1893.

ONE PIECE

On Market 5 Years
1,000,000 a Month
Beware Imitations

"NO-LEAK-O" Patented

NO-LEAK-O PISTON RING CO., Baltimore, Md.

MOTOR WEST

Reaches a larger percentage of dealers than any automobile publication circulated on the

PACIFIC COAST

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MOTOR WEST'S REGIONAL MOTOR MART

RATES—One time, $4.00 per inch; three times, $3.75 per inch; six times, $3.50 per inch; twelve times, $3.25 per inch; twenty-four times, $2.75 inch

CYLINDER WORK

SCORED CYLINDERS
REPAIRED BY
Lawrence Patent Process

Fused with our silver-nickel alloy. Same pistons fit. Reshipped 24 hours after received. Approved by all motor manufacturers. Guaranteed for life of motor.
Established 1862
L. LAWRENCE & CO.
Plants in All Principal Cities
San Francisco, 116 Hyde Street
Los Angeles, 1030 South Grand Ave.
All infringers will be prosecuted to full extent of the law

ACCESSORIES.

MOTORLIFE
TRADE MARK REG.

Saves 25% to 50% Gasoline, removes carbon, produces motor efficiency and completes lubrication.
Motorlife is guaranteed harmless to any motor, under all conditions and in any quantity.
Purchase price refunded if Motorlife does not prove satisfactory.
Motorlife must eventually become part of your equipment. Why not now?
M. F. ENDERLE, So. Cal. Dist.,
306 California Bldg., Los Angeles, Cal.
W. H. A. SHERMAN,
Los Angeles Co. Agt., Phone Main 3903.

AUTO BODIES

COMMERCIAL *and* TRUCK BODIES FOR FORDS

BARNETT AUTO BODY CO.
430 Golden Gate Ave. :: San Francisco

FREIGHT FORWARDING.

Traffic Managers Ship Brokers
Ocean Freight Forwarders
WESTERN TRAFFIC SERVICE
FREIGHT RATE EXPERTS
JAMES E. HELPLING, General Manager
Marsh-Strong Bldg. LOS ANGELES, CAL.
MAIN 7578

SPRINGS

Cambria Spring Company
"Proven Quality"
CHROME VANADIUM AND CARBON STEEL SPRINGS

Cambria, the Unbreakable Rattle and Squeak Proof Bumper

High-Grade Second Growth Hickory Wheels Springs, Wheels and Bumpers Repaired
Wrecking Jobs Our Specialty
Tire Racks and Platforms Applied
Forgings, Demountable Rims Applied
Main 1076—65233 916 So. Los Angeles St.
LOS ANGELES

GRUSS

Distinguishes the BEST from the REST
The *Choice* of the MAN *who* KNOWS
No Rocking or Swaying on Curves
Guaranteed 5 Years
GRUSS AIR SPRING CO.
Telephone Park 7306—7307
179 Grove Street, Opp City Hall, San Francisco
Branches:
Los Angeles, 775 Towne Ave. Portland, Ore., 503 Alder Seattle, Wash., 562-1st Ave., S.

TRAILERS

AUTOMOBILE MAILING LISTS.

AUTO MAILING LISTS
Send for our free complete Price List covering Auto Dealers, Owners, Ford Dealers, Truck Dealers and Owners, Garages, Auto Mfrs. and etc., any state.
A. F. WILLIAMS, Mgr. of List Dept.
166 W. Adams St., Chicago.
Capital Invested $50,000.

REAR-VIEW MIRRORS.

"Cop-Spotter" Mirror
"The whole road behind in front of you"
Price, $3.50
BERGER & COMPANY
Black Building Los Angeles

REAR-VIEW MIRRORS.

ACCESSORIES

ROSE GREASE GUNS
"Rose" Grease Guns are self-loading. They fill by suction—anything from light oils to the heaviest greases. Made of steel throughout. Heavy double cup leather.
No. 1 Auto 12½x1¼"
No. 2 Truck and Tractor 19½x1½"
No. 3 Shop and Garage 24½x1½"
ROSE Grease Guns net the Jobber and Dealer a nice profit

Over 1,000,000 ROSE TIRE PUMPS
In use in the United States. 2,000,000 more will be sold this year. *The Patent Valve is the reason.* Five years satisfactory service to the user is the past record of *The Rose Tire Pump.* All steel construction, will not jam or dent in the tool box. Equipped with the best hose that money will buy—5 ply, 3-16" inside diameter, 17-32" outside diameter.

If your dealer cannot supply you, write us
J. H. Haney & Company
Hastings, Nebraska, U.S.A.

THE 4 in 1 TOOL

The indispensable wrench for all car users. It fits the Spark Plug, Valve Cap and rim lug, as well as being a tire iron. Cannot slip off and hurt the hand.
NICKEL PLATED PRICE $1.50
Ask your dealer, or order direct from
The Four In One Mfg. Co. 940 South Los Angeles Street LOS ANGELES, CAL.

PARTS.

FLY WHEEL STARTER GEARS
Automotive Parts Service Company
3322 BROADWAY
PHONE OAK 7057
OAKLAND, CALIF.
New Motor and Gear Parts For All Cars

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WINDSHIELD CLEANERS

RAIN-SNO
CLEAR VIEW
WINDSHIELD CLOTH
AVOID ACCIDENTS
Do not drive your car with a Rain-Blurred Windshield
Over 10,000 Accidents Yearly caused by such a condition
RAIN-SNO "RED CLOTH" keeps the entire glass clear by chemical action. One application over wet windshield will give a clear driving vision which will last as long as any storm. *Be insured against accident* and secure a RAIN-SNO CLOTH today. At your dealers or by mail postpaid. Price 50 cents
Refuse substitutes and insist upon the Original "RED CLOTH"
Made only by SUFFOLK MANUFACTURING CO.
3168 Washington St., Boston, Mass.

LATE TRADE NEWS

Wilson Now With Herschell-Spillman.

H. D. Wilson has been appointed vice-president of the Herschell-Spillman Motor Co., North Tonawanda, N. Y., and has assumed the duties of the office, which embrace a portion of the general administration as well as the directing of the distribution of that company's product, including the initiating and supervising of the extensive publicity incident to the large expansion of its manufacturing program. Mr. Wilson has contributed very extensively to the development of the automotive industry, and resigned the sales managership of the Bijur Motor Appliance Co., Hoboken, N. J., to accept the invitation of B. W. Burtsell, president of the Herschell-Spillman Motor Co., and with whom he was associated when the latter was manufacturing manager of the Packard Motor Car Co., to become an executive of the Herschell-Spillman Motor Co.

* * *

Timken-Detroit Plans for 1921.

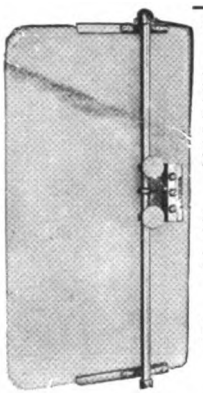
Denying all rumors of consolidation with other interests, the Timken-Detroit Axle Co., of Detroit, has announced plans of expansion making possible an increase of at least 50 per cent in its output for 1921. The company's capital has been increased to meet the rapidly growing demand for Timken-Detroit axles. Of the authorized $5,000,000 of preferred stock has been sold and $2,000,000 of the cash invested in plans and equipment. The company's practice has been to put back into the business each year about 75 per cent of earnings, so that its invested capital today is about $18,000,000, on which it is planned to pay about 6 per cent dividends during 1920.

* * *

Steinback Resigns From Eisemann.

W. E. Steinback, treasurer and general manager of the Eisemann Magneto Corporation since its organization in January, 1910, has resigned to engage in other business. Mr. Steinback was instrumental in building the Eisemann business to its present commanding position, and is well known to the entire trade. He is not yet ready to announce his new plans.

WIND DEFLECTORS



SIDETRACK the WIND
Attach PACIFIC
WIND DEFLECTORS
Ride in solid comfort. Keep that draft off. You not only owe this added comfort to yourself, but to your passengers.
No Perforations in Glass
Rust-Proof Brackets
Rattle-Proof
Not a novelty, but a proven, practical necessity. Accept no substitutes, demand Pacifics.
(Name on each pair.)
Price $20.00.
Pacific Windshield Co.
814 South Olive St.
Los Angeles, Cal.
Phone M. 8133

TRANSFORMERS.

EMO TRANSFORMERS
Will Increase Power—Add Fuel Mileage—For Automobiles, Aeroplanes, Trucks, Tractors, Motorcycles, Marine and Stationary Engines
EMO TRANSFORMERS transform the ordinary slow, faint spark into a high-tension blue blaze or flame which instantly explodes all the vapors even in the lowest gravity fuel, thereby insuring greatly added power and mileage. This intensive blue-white EMO flash keeps the spark plug points free from carbon, soot and oil. Prevents "bucking" or "loping." Insures easy starting, quicker acceleration, and a sturdy, uniform flow of power at all speeds. Protects the entire ignition system. Save many times their cost in fuel and spark plug economy. One EMO on each plug makes all cylinders pull even. Can be attached by anyone.
$1.00 Each at Dealers, or sent prepaid upon receipt of price. State make of car when ordering.
The Emo Laboratories 2255 North Illinois St. INDIANAPOLIS, IND.

Lindstrom With Roller-Smith Co.

The Roller-Smith Co., 233 Broadway, New York City, makers of electrical instruments, meters and circuit breakers, announces the appointment of G. Lindstrom as works manager of its plant at Bethlehem, Pa. Mr. Lindstrom is a graduate of the Royal Institute of Technology at Stockholm, Sweden, having secured his degree of M. E. in 1906 and the degree of E. E. in 1907. Since his graduation he has been connected with the Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa., in the drafting department; Ohio Sterling Co., Dayton, O., as chief engineer; Electric Products Co., Cleveland, O., as chief engineer; S.K.F. Ball Bearing Co., Hartford, Conn., as production manager, and S.K.F. Ball Bearing Co., Gothenburg, Sweden, as production manager.

* * *

Rouze Heads G.M.C. Sales Promotion.

C. F. Rouze, who has been assistant sales manager of the General Motors Truck Co., Pontiac, Mich., has been promoted to the head of the new department of sales promotion. M. J. Kates has been appointed assistant sales manager.

* * *

Maibohm Sedan Increased in Price.

Owing to the steadily rising costs of labor and materials the Maibohm Motors Co., Sandusky, Ohio, has been compelled to raise the price of its sedan to $2100, f. o. b. Sandusky. The sedan is an enclosed car with a capacity for five passengers. The coach work is done entirely at the new body plant, which has just been completed and occupied by the factory. Coincident with this price adjustment each sedan will be equipped with 32x4-inch wheels and tires, for which there will be no extra charge.

* * *

Auburn Raises Its Prices.

The Auburn Automobile Co., Auburn, Ind., has announced an advance in price of every Auburn Beauty Six model, effective on all cars shipped after January 1st. This advance is due to the increased cost of materials and labor. Models 6-39 H and K, touring car and tourster, have been advanced to $1795; 6-39 R, the roadster, to $1845; 6-39 sedan and coupe, to $2775. These prices are f. o. b. factory, Auburn, Ind.

PARTS.

PARTS PARTS PARTS
Make the **California Auto Parts & Wrecking Co.** your headquarters for everything in repairs and accessories for all makes and models of cars, both old and new.
MOTORS MOTORS MOTORS
Hundreds of them, all sizes and for every purpose. If your old motor is worn out, or beyond ordinary repair, we will furnish you with one to replace it, no matter what make, and give you liberal allowance on old motor. We have hundreds of them. Also hundreds of crank cases, cylinders, crankshafts, clutches, pistons and connecting rods, wheels, frames, steering assemblies, gears, rear end axles, radiators; in fact, everything and anything needed for an auto.
ACCESSORIES ACCESSORIES
All new accessories at a saving of 30 to 50%. We also carry a large stock of new gears for many makes and models of cars.
Learn to rely on our service. It is efficient and prompt. No matter what you want, it is usually to be found in our immense stock, the accumulation of ten years' business.
California Auto Parts & Wrecking Company
523 Golden Gate Ave., San Francisco, Cal.
Branch: 1130 S. Main St., Los Angeles, Cal.

HOTELS

MOTORS.

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Firestone Rims -preferred equipment for Cars and Trucks

THEY are the standard equipment on the majority of passenger and commercial cars now manufactured, because they make tire changes easy and get greater mileage from tires.

Firestone Rims have put speed and economy into trucking because they made the use of the Giant Pneumatic tire practical. One man can make a tire change of the largest pneumatic truck tires when mounted on Firestone Rims.

Firestone Rims, whether on passenger car or truck, are an assurance of strength, economy and practical every-day convenience.

The Firestone Steel Products Co.

Firestone Park, Akron, Ohio

TYPE C. Continuous base detachable, demountable rim for passenger cars and trucks. This type of rim, in the 6, 7, 8 and 10 inch size, is the rim which has made the use of Giant Pneumatic truck tires practical for straight side tires.

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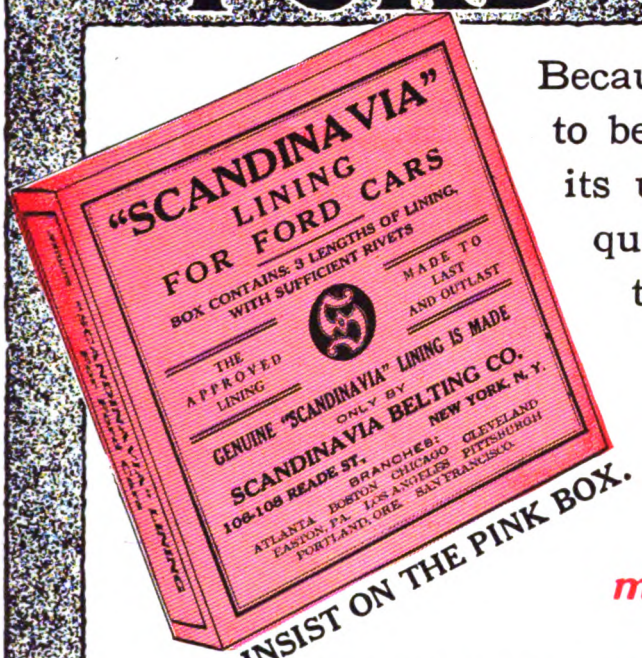
SCANDINAVIA

TRADE MARK REGISTERED IN U.S. PATENT OFFICE

BRAKE LINING for FORD CARS



INSIST ON THE PINK BOX.

Because it has proven itself to be all economy through its unusual long wearing qualities, and its satisfactory service during long usage—

Scandinavia has been the accepted lining for Fords for many years.

AS EFFICIENT AS AN AIR BRAKE—THE LINING DE LUXE FOR FORD CARS

Scandinavia is made especially for Ford use. The hot, oily condition of the Planetary Transmission cannot harm it.

It will not chatter or glaze.

It is wear proof.

It is made of the best long staple cotton interwoven into a compact fabric, especially impregnated, processed and hardened to resist heat, oil and grit.

ATTRACTIVE PROPOSITION TO JOBBER AND DEALER.

SCANDINAVIA BELTING CO., 106 READE STREET NEW YORK, N. Y

BRANCHES: Atlanta, Boston, Chicago, Cleveland, Easton, Pa., Pittsburgh. San Francisco. Los Angeles. Portland, Ore.

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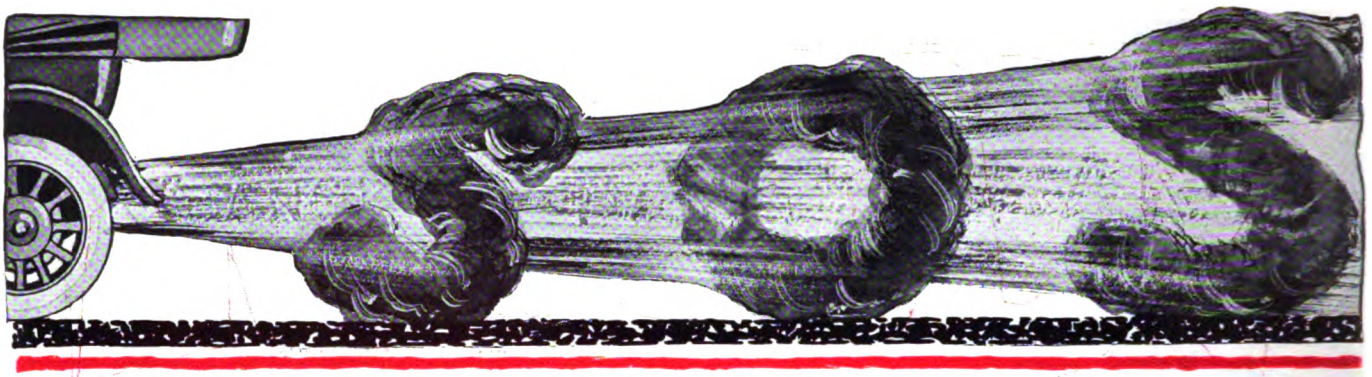


When the Engine Flashes "Help!" It's a Sign of Leaky Piston Rings

Install ZELNICKER *Ever-Tyte*
The Piston Ring for All Engines

S. O. S.!! That's a distress signal being flashed to many motorists. It's an earnest call from the power plant warning trouble ahead. A danger signal not often visible from the driver's seat but very plain to you, Mr. Dealer. Why not tell the owner? He needs new piston rings — ZELNICKER *Ever-Tyte Piston Rings*.

Or look at the matter from a selfish business standpoint. *Handle Rings that PAY.* Successful garage men never hesitate stocking Ever-Tytes exclusively. Why? Because they get the long end of the profit. The big margin—the extra percentage. They can *afford* to do a good job. And when you can *afford* to do a thing you do it right and you get *money* and *trade*, both.

ZELNICKER *Ever-Tyte Piston Rings*

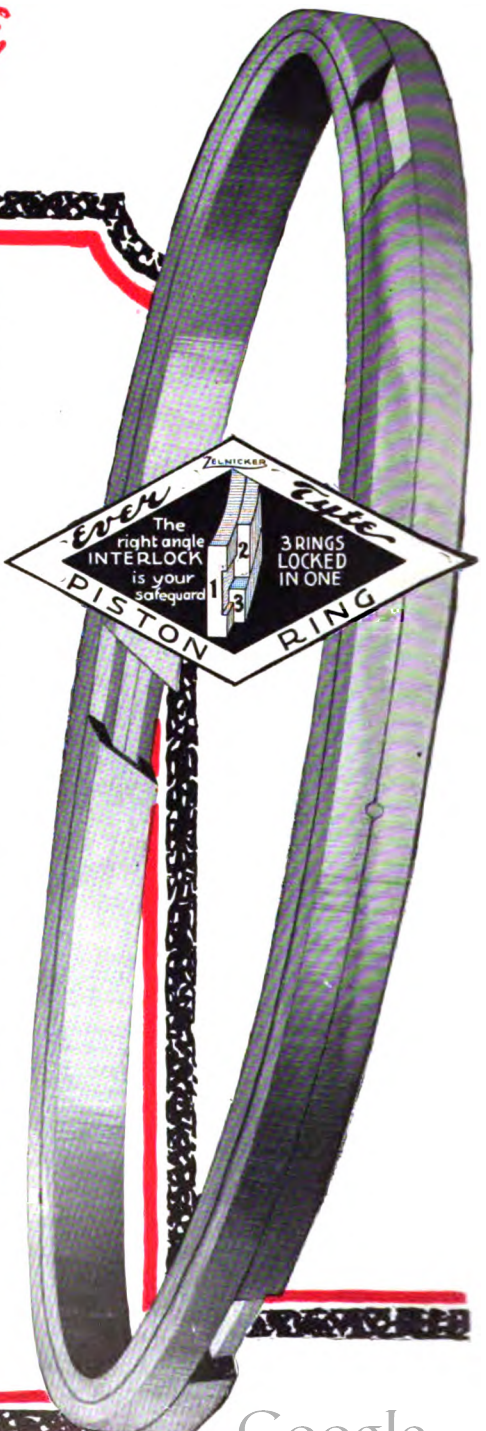
net you a bigger profit than some rings list for. You can't beat that. Think it over, seriously. Besides, no better rings can be had. They are Power Guardians that give three for one. Three-piece efficiency with one-piece simplicity.

Guaranteed? Yes—by a Guarantee Bond, more sweeping than you ever heard of before. Iron-clad and lived up to without a word of quibble.

Best of all—they're nationally advertised. Millions have seen them—many motorists are specifying them. Don't wait for the first calls. Resolve to become a money-making Ever-Tyte dealer and—*Do so NOW!*

Install them—on all engines.

THE EVER TIGHT PISTON RING CO.
Saint Louis, Mo.



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Motor West is published on the 1st and 15th of each month. Publication office, 911 Marsh-Strong Bldg., Los Angeles, Cal. Entered as second-class matter July 10, 1914, at the postoffice at Los Angeles, Cal., under the Act of March 3, 1879. Entered as Motor West and California Motor, August 28, 1907.

Pacific Coast Show Number

— OF —

MOTOR WEST

WILL BE ISSUED

February 16

in connection with the Fourth Annual Pacific Motor Show in San Francisco.

*

Will contain a resume of automotive trade conditions on the Coast, and an outline of prospects in all branches of the industry for the present year.

*

Last advertising forms will go to press at 6 o'clock on the evening of February 13th, and advertising copy can be handled up to noon on that day.

*

Eastern advertisers especially are urged to forward copy at once.

*

Motor West Publishing Co., Inc.

911-912 Marsh-Strong Bldg.

LOS ANGELES, CALIFORNIA

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THERE is no denying the fact that a Nash dealer contract is a mighty fine thing to have these days. Nash dealers in all sections of the country are successful because the Nash factory, in conjunction with Nash distributors everywhere, assure the Nash dealer a "square deal" at all times and make every effort to see that his business is permanent, profitable and steadily increasing in volume from year to year.

Nash Passenger Cars

5-Passenger Car, $1595 2-Passenger Roadster, $1595 Sedan, $2725
4-Passenger Coupe, $2495 7-Passenger Car, $1765
4-Passenger Sport Model, $1745

Nash Trucks

One-Ton Chassis, $1650 Two-Ton Chassis, $2250
Nash Quad Chassis, $3250
Prices F. O. B. Kenosha

The Nash Motors Co., Kenosha, Wis.
Manufacturers of Passenger Cars and Trucks
Including the Famous Nash Quad

NASH MOTORS

VALUE CARS AT VOLUME PRICES

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Little Journeys in PATRIOT Motor Trucks

At the Crest of Berthoud Pass

On its way over the Rockies, at the highest point on Berthoud Pass, 11,300 feet altitude, a Patriot Truck was stopped long enough to be photographed. Our Denver Distributors tell us that the Patriot is a wonder for mountain hauling.

Wherever Heavy Service is Demanded

Under unusually difficult conditions, Patriot Trucks are helping to add to their wonderful reputation. We sell Patriot Trucks on the basis of satisfactory operation under extraordinary service.

HEBB MOTORS CO., ***Manufacturers,*** **1387 P Street, Lincoln, Neb.**

REVERE MODEL	LINCOLN MODEL	WASHINGTON MODEL
1500 to 2500 lbs. capacity.	3000 to 5000 lbs. capacity.	5000 to 7000 lbs. capacity.

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What Makes a Good Tire?

THE other day we overheard a man say: "Do you know, I think the BRAENDER folks really want to make good tires." We consider that as high a compliment as could be paid us, and it is the more pleasant because it happens to be true. You know as well as we do that a tire is just as good as the maker *really wants* it to be.

We really do want to make good tires, and if we are to judge by the number of new friend our tires are making we must be actually doing it.

BRAENDER

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We Are Proud of This New Plan

INCIDENTALLY we might mention that there is still some territory open for BRAENDER exclusive agencies. If you have not yet seen the new BRAENDER selling plan, let us know. We are rather proud of that plan and would like to show you how we make Braender advertising *sell tires* and earn more profits for Braender dealers. Write us for the whole story.

BRAENDER RUBBER & TIRE CO.

Factory: **RUTHFRFORD, NEW JERSEY, U. S, A.**

Branches:

32 Broadway, New York **64 East 14th Street, Chicago**

1352 W. Girard Ave., Philadelphia

131-133 8th St., San Francisco

CORD AND FABRIC TIRES

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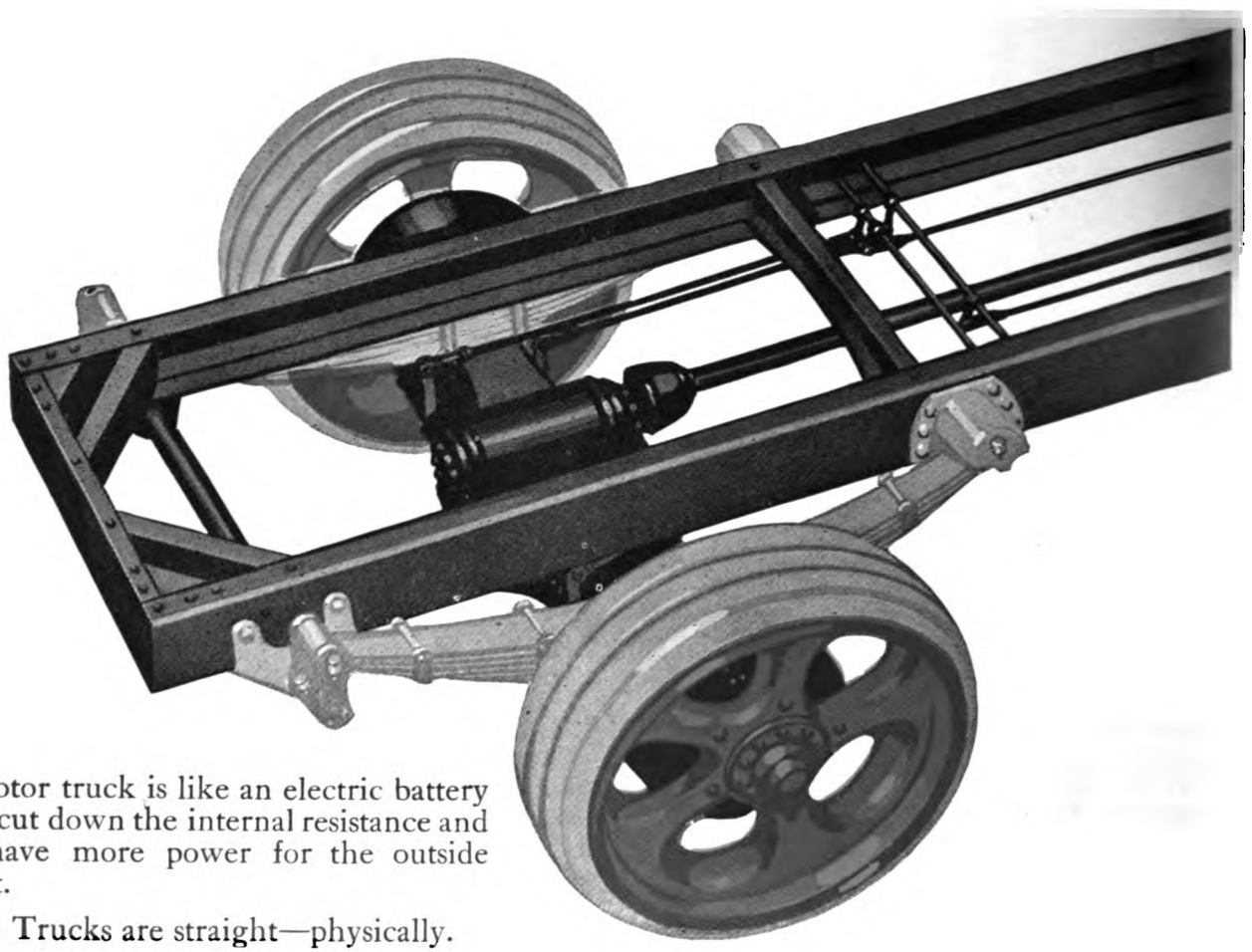
ACE MOTOR TRUCKS



A motor truck is like an electric battery—cut down the internal resistance and you have more power for the outside circuit.

Ace Trucks are straight—physically.

The frame, drive shaft and brake rods are straight. The power is delivered in a straight line. All the control rods are straight. The cross members are straight.

The straightness of Ace Trucks results in strength positive action, minimum internal power losses, maximum power reaction on the load, ease of control, freedom from accidents and breakage, and longer life.

Before we designed the Power IN we designed the Power Losses OUT

1½-2 Ton $2,800.00
2½-3 Ton $3,500.00

¾ Ton and 3½ Ton, to be announced.

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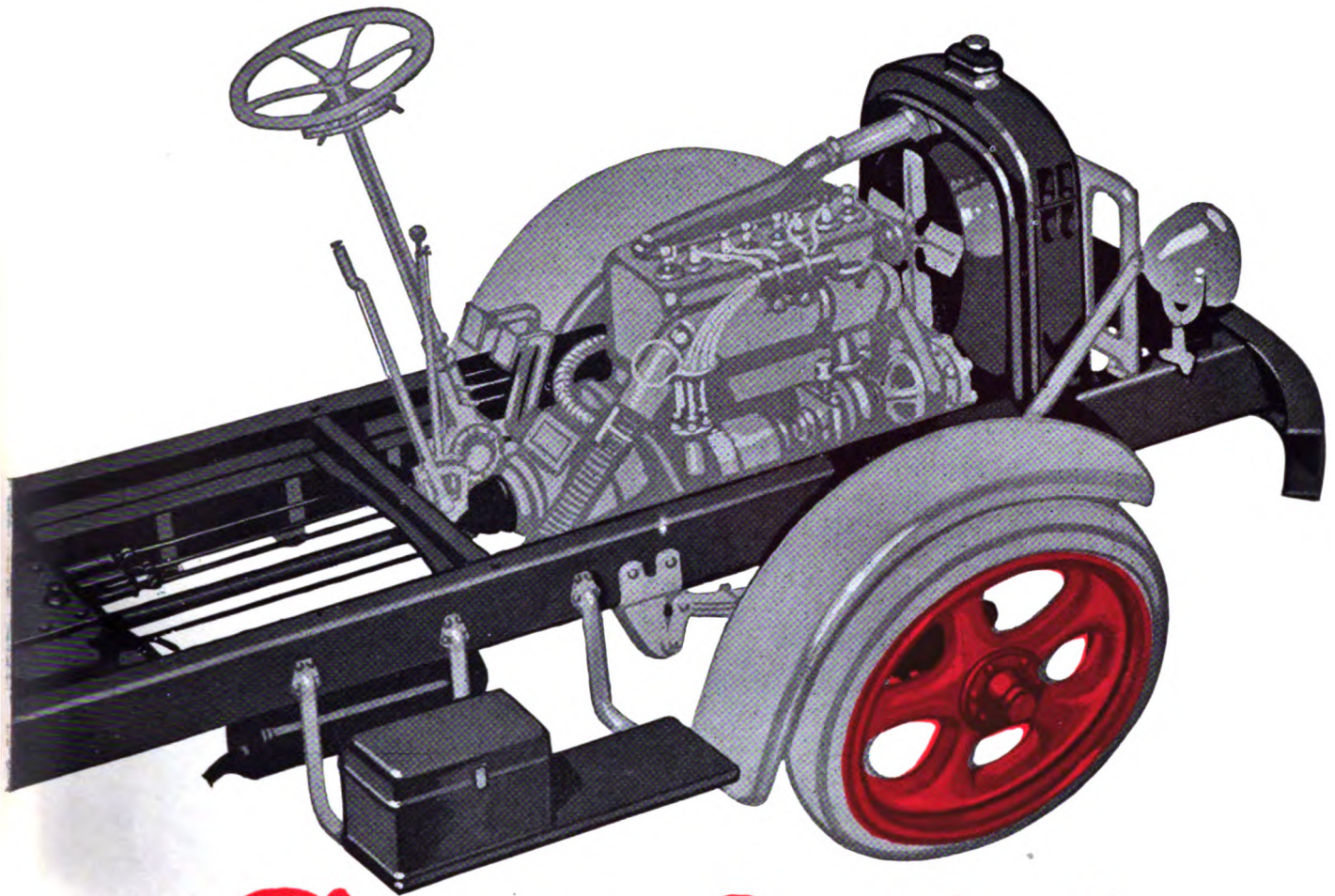

Straight

If all roads were dead level and the load on the truck never varied, universal joints would be unnecessary.

But roads are rough and loads vary, and for these reasons motor vehicles must have universal joints.

Now universal joints—even the best—waste power, by necessity.

There are only two ways to minimize universal joint wastage of power—use the best universal joints, and give them the least possible work to do.

We believe Ace Trucks have the best universal joint—Spicer.

We know Ace Trucks demand the least possible service from their universal joints, because the chassis design is such that when the truck is normally loaded the drive shaft is absolutely straight, from crank shaft to worm pinion. That gives the engine the equivalent of a solid, straight, frictionless, non-corner torque that gets there one hundred per cent strong at the point where the tires track on the ground.

Straight Dealers get a Straight Contract that builds a Straight Motor Truck Business.

Ace

THE AMERICAN MOTOR TRUCK COMPANY
NEWARK OHIO

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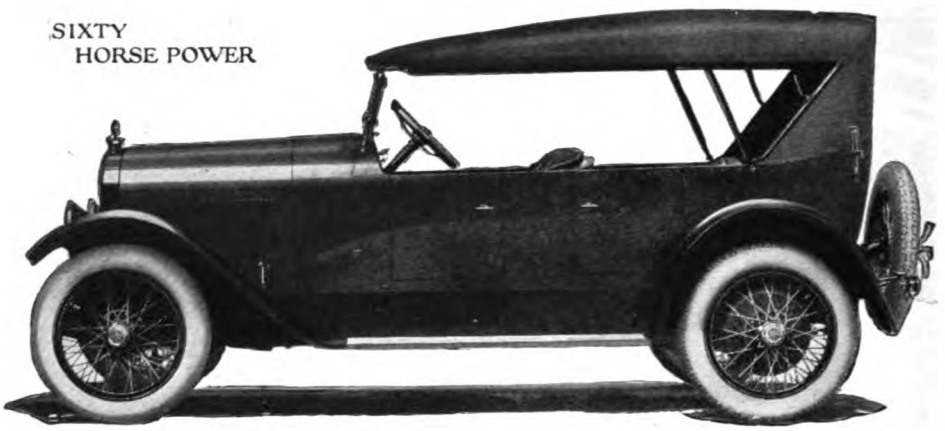
KING

"The Car of No Regrets"

SIXTY
HORSE POWER



FOURSOME

NEW in one hundred features for greater comfort and efficiency, yet old in reliability, power and stamina.

The King of 1920 possesses that high mechanical excellence which can result only from many previous years of multiplied and world-wide operating experience.

The convenience, comfort and beauty of these four models should appeal to the most exacting.

KING MOTOR CAR COMPANY, Detroit

TOURING

LIMOUDAN

ROAD-KING

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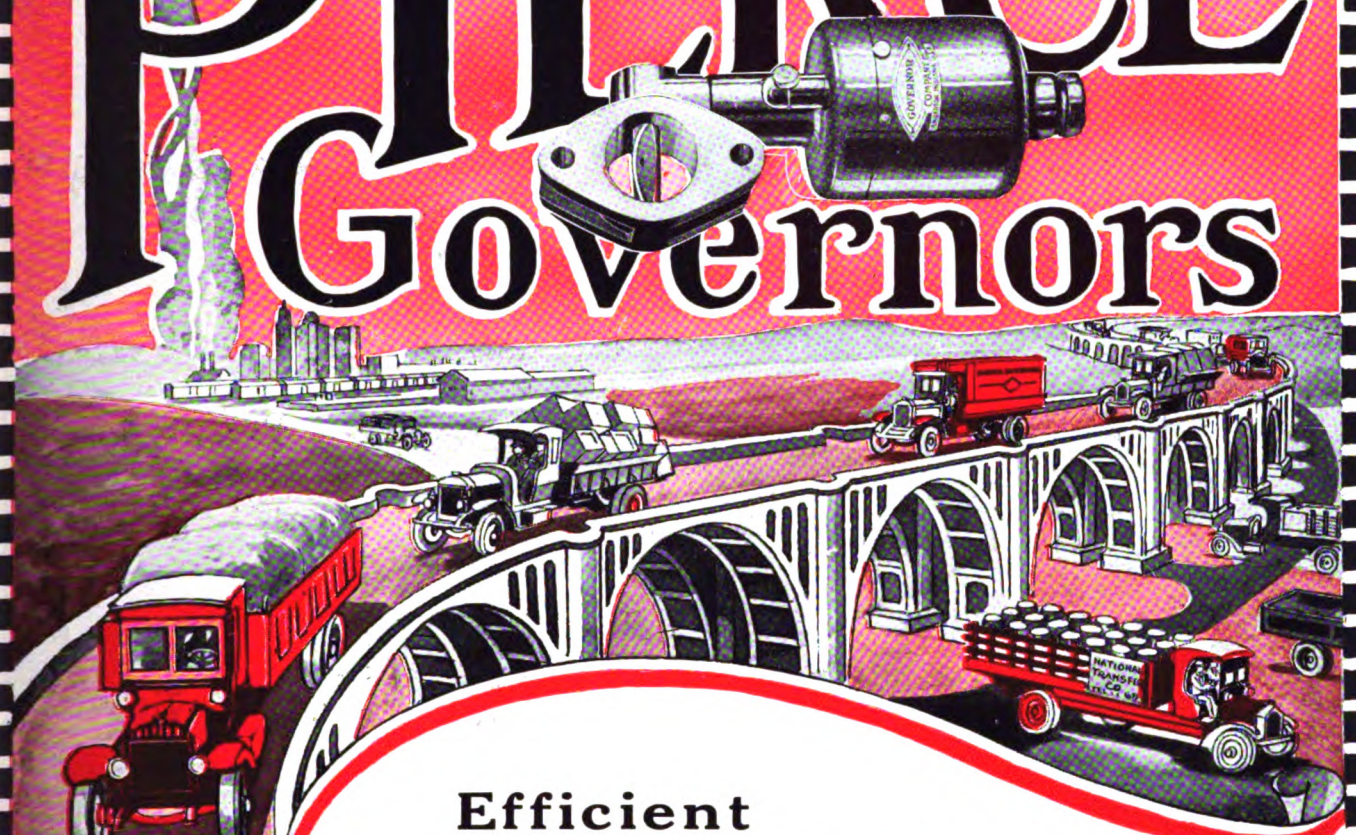
PIERCE Governors



Efficient Highway Transportation

With motor trucks rapidly becoming one of the biggest factors of transportation, it is imperative that they be built for long life and efficient service.

Nothing will pile up repair and upkeep costs more rapidly than driving trucks at excessive speeds. The tremendous vibration is destructive to every part of the truck mechanism.

Trucks in the repair shop are not performing their function and transportation is delayed—yet they are costing more than trucks in constant service. Trucks frequently laid up for repairs are unsatisfactory and unprofitable.

That's why one hundred and three far-sighted truck manufacturers prefer to guarantee the satisfactory performance of their trucks and have made Pierce Governors standard equipment, so that fast and reckless driving will be impossible.

The Pierce Governor Company
ANDERSON, INDIANA

"World's Largest Governor Builders"

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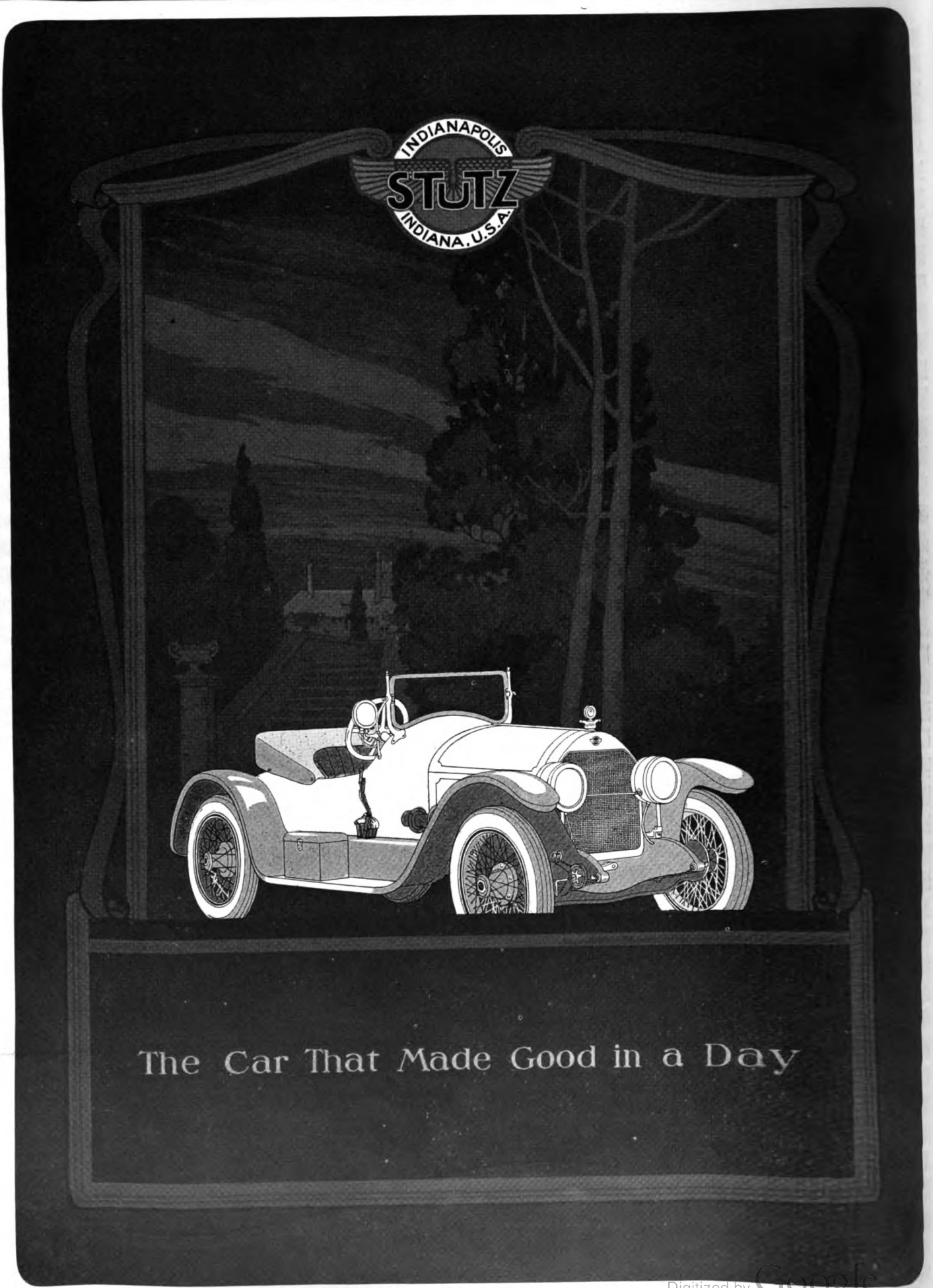

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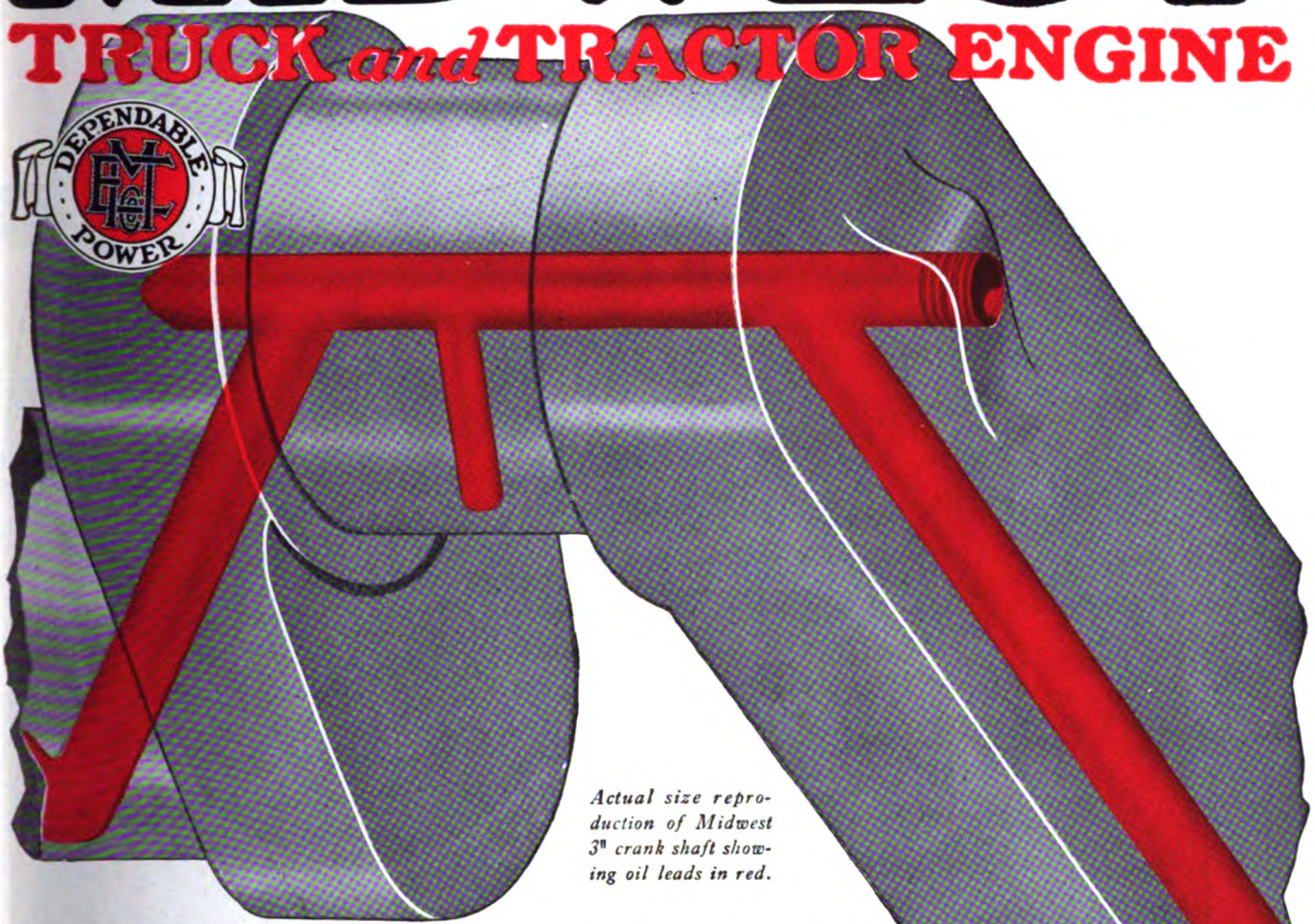
MIDWEST

TRUCK and TRACTOR ENGINE

DEPENDABLE POWER



Actual size reproduction of Midwest 3" crank shaft showing oil leads in red.

HERE is the first high-speed heavy-duty engine, designed especially for use in *pneumatic-equipped* trucks.

On solid tires a heavy-duty truck engine was not expected to operate above 1000 ft. piston speed p. m.—as a result the power and flexibility was limited. On pneumatics, trucks are driven at passenger car speeds, not intermittently, but *on the average and on long hauls.*

This calls for engine speeds of around 1500 r.p.m., which former designs were not built to deliver.

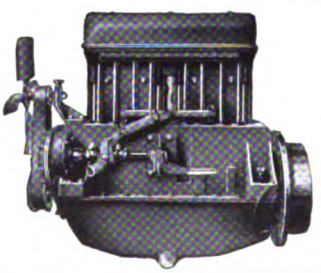
Anticipating this advance in truck design, the Midwest Engine Company developed a new type, heavy-duty, high speed engine capable of hurling a loaded truck over the road at passenger car speed *all day long*

—without the slightest undue strain or stress on the power plant—and with a flexibility in handling equalling that of the smallest bore motor in the lightest car. This fact has interested the entire truck building industry—and the truck user.

How can any engine stand up indefinitely under such protracted and intense strain?

Here is the answer—a rugged 3 inch crank shaft that cannot whip or spring—a unique method of lubrication whereby every moving element subject to thrust or stress is *floated on a film of oil*, the lubricant being injected under pressure through channels into the bearings at the *proper cycle moment* —remarkable carburetion, combustion and scavenging—especially designed overhead valve mechanism with liberal sized valves and a positive action—correctness of design, fineness of workmanship—large dimensions and abnormal margins of strength throughout, insuring against breakage and wear.

The Midwest Engine actually *does* meet pneumatic requirements.



ADDRESS SALES DIVISION 17

MIDWEST ENGINE CO. INDIANAPOLIS, IND.

Dependable Power

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FISK TIRES

THE Fisk Black Tread Non-Skid is the best dollar-for-dollar value on the market, bar none.

The Fisk Cord represents the very peak of "cord" workmanship. And the Fisk Red-Top—between the two in price, and, with its extra heavy tread and extra ply, actually without a rival in the tire world—is the wonder of the trade.

Investigate. You'll find *completeness* only in Fisk.

Next Time—BUY FISK
From Your Dealer

Sold *direct* to dealers and manufactures. There is a Fisk Branch within 24 hours of any dealer.

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STANWOOD
Cord Tires

BACK of STANWOOD TIRES is a directing force of far seeing tire men with manufacturing experience as old as the industry. Back of these is the definite policy to produce under the STANWOOD brand the ***supreme long distance tire***—Cord, Fabric and Truck Pneumatic.

The STANWOOD contract with Distributors for 1920 is based upon this solid foundation. Territory is now being signed up. Applications promptly considered.

NOTE: **STANWOOD Supreme Quality Inner Tubes, Red and Gray, are built to the same standard of super-excellence.**

STANWOOD RUBBER COMPANY
Executive Offices: 9 East Fortieth Street, New York City

Chicago Branch: 1712 So. Michigan Avenue
Factories: Elizabeth, N. J.

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Machined to CENTERS is Your assurance of Absolute Accuracy

Another of the Many Details that Make "SPENCER" Stand for Quality

BEFORE we machine a steel bar into an axle or drive shaft, it is center drilled at both ends by machinery. All work on the shaft is then absolutely accurate and the bearing surfaces are sure to be in perfect alignment, because every operation is performed from these centers.

This sort of workmanship means that when you sell a SPENCER guaranteed and trade-marked drive or axle shaft, you're taking no liberties with your reputation among the car owners—that you can be dead sure that the "SPENCER" part is equal in quality of the part it replaces.

We are jealous of the "Spencer" Trade-mark. Any article that bears the "Spencer" name must be at least the equal of any article made by anyone for the same purpose.

That is the policy upon which we have built up our world-wide business and modern, highly efficient factory.

But that quality must not be attained at the dealer's expense. We have made factory efficiency pay for extra quality. Result—Spencer guaranteed products cost no more than any replacement parts. Spencer guaranteed products are sold through jobbers exclusively.

Insist that your jobber fills your orders with Spencer products.

Axle shafts and drive shafts for all popular makes of cars.
Connecting rods, radius rods, fans and mufflers for Fords.
Gilliam take-down taper roller bearings for light cars and commercial trucks.

THE SPENCER METAL PRODUCTS COMPANY

624 S. Michigan Avenue, Chicago

and 16 to 24 W. 61st St., New York

Spencer Quality *Costs You No More*

THE SPENCER METAL PRODUCTS CO. SPENCER SPENCER, OHIO.

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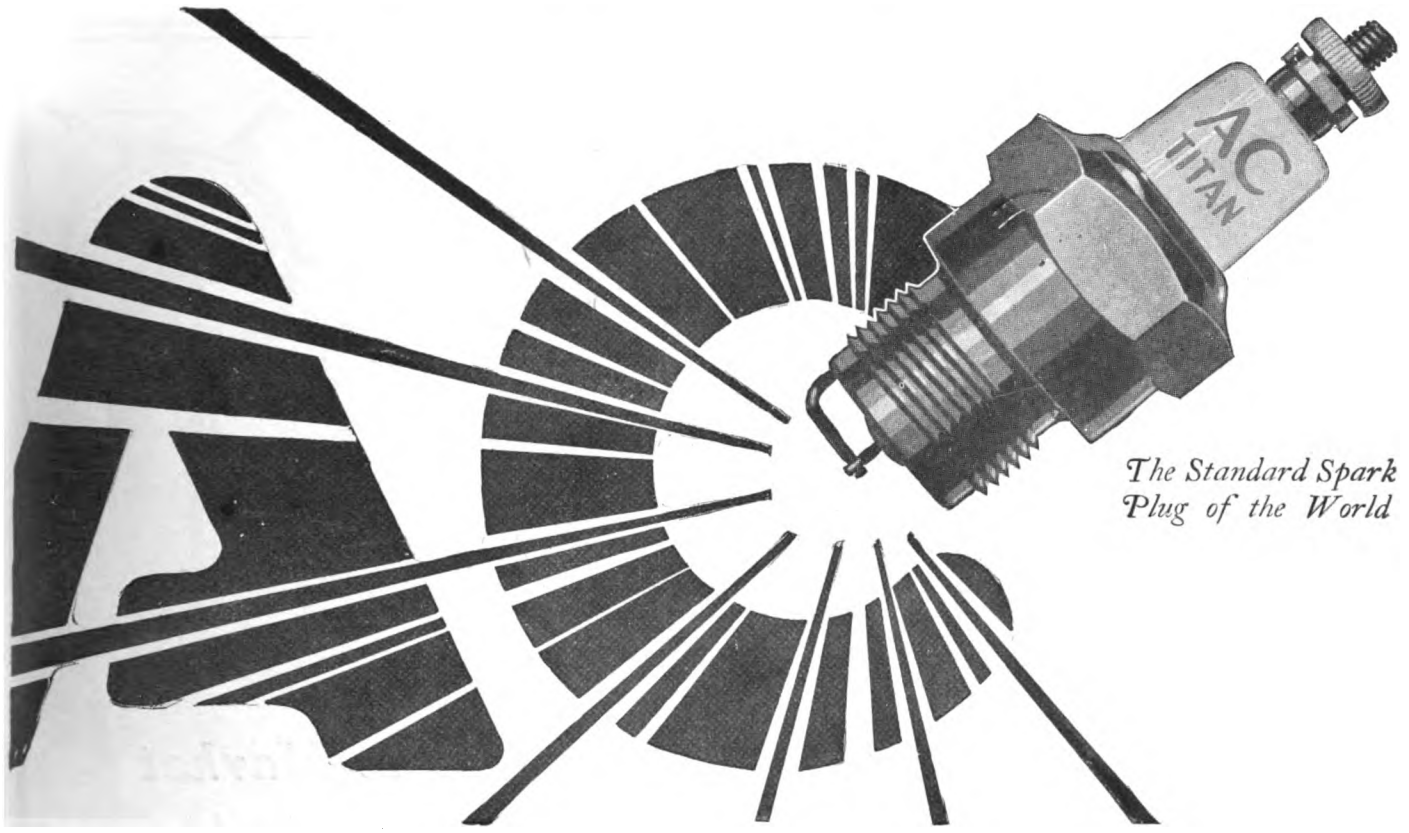

The Standard Spark Plug of the World

The old, old story of AC dominance was retold at this year's New York and Chicago Automobile Shows. A census taken of the passenger cars and motor trucks on display showed that more fine cars were equipped with AC Spark Plugs than with all other makes combined. The dealer takes no chances in stocking a line that has the endorsement of the leading automotive engineers of the country, or in recommending and selling spark plugs that are used as standard equipment on the leading makes of automotive vehicles. That line is the AC. Concentrate upon it. Write today for complete dealer information.

Champion Ignition Company, FLINT, *Michigan*

These manufacturers use AC Spark Plugs for factory equipment

Acason Trucks
Ace
Acme Trucks
Advance-Rumely Tractors
Ahrens Fox Fire Trucks
American Beauty
American-La France
Anderson
Apex Trucks
Apperson
Appleton Tractors
Argonne Four
Ateo Trucks
Auburn
Austin Manufacturing Company
Available Trucks
Avery Tractors
A. & T. Tractors
Bates Steel Mule Tractors
Beck-Hawkeye Trucks
Bellanger Frères (France)
Bessemer Trucks
Betz Trucks
Birch
Bour-Davis
Braddon
Bradley
Briggs & Stratton Motor Wheel (formerly Smith)
Brockway Trucks
Buffalo Motors
Buick
Bullock Creeping-Grip Tractors
Cadillac
J. I. Case T. M. Co.
Chalmers
Chandler
Chevrolet
Chicago Trucks
Clark Tractors
Cleveland
Cole
Collier Trucks
Comet
Commonwealth
Conestoga Trucks
Continental Motors
Curtiss Aeroplanes
Daniels
Dart Trucks
Davis
Defiance Trucks
Delco-Light
Denby Trucks (Canada)
Diamond T Trucks
Diehl Trucks
Dodge Brothers
Doman Engines
Domestic Gasoline Pumping Engines
Dort
Duesenberg Motors
Dyneiectric Plants
Eagle Tractors
Economy
Elmira
Essex
Excelsior Motorcycles
Fairmont Ry. Motors
Federal Trucks
Flour City Tractors
Frontmobile
F-W-D Trucks
Galloway Engines
Gary Trucks
Genco Light
Glide
G. B. S. Motors
G. M. C. Trucks
Gramm-Bernstein Trucks
Gray Dort
Hackett
Hahn Trucks
Hall Trucks
Harvey Trucks
Hatfield
Haynes
Herschell-Spillman
Holt Tractors
Howell Tractors
Hudson
Hupmobile
Hurlburt Trucks
Independent Trucks
Jackson
Johnson Motor Wheel
Jordan
Jumbo Trucks
Kalamazoo Trucks
Kearns Trucks
Kent Concrete Mixers
Kissel Kar
Kielber Trucks
Klemm Trucks
Knox Tractors
Koehler Trucks
K-Z Trucks
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Maccar Trucks
Maibohm
Marmon
Master Trucks
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Maytag
McLaughlin (Canada)
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Meteor
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Minneapolis Motors
Mitchell
Moline-Knight
Monroe
Moreland Trucks
Napoleon Trucks
Nash
National
Nelson
Nelson Tractors
Nelson & Le Moon Trucks
Netco Trucks
New Britain Tractors
Noble Trucks
Oakland
Old Reliable Trucks
Oldsmobile
Oneida Trucks
Owens Light & Fower Plants
Packard
Paige
Pan
Parker Trucks
Paterson
Patriot Trucks
Perfect Power Sprayers
Phianna
Pierce-Arrow
Pilot
Pioneer Tractors
Pittsburgher Trucks
Porter
Premier
Ranger Trucks
Red Wing Thorobred Motors
Reo
Re Vere
Reynolds Trucks
Riker Trucks
Roamer
Roberts Motors
Robinson Fire Trucks
Rock Falls
Rowe Trucks
Rutenber Motors
Samson Tractors
Sandow Trucks
Sanford Trucks
Saxon
Scripps-Booth
Scripps Motors
Signal Trucks
Singer
Speedway Motors
Standard "8"
Standard Trucks
Stanwood
Stearns-Knight
Stearns Tractors
Sterling Engines
Sterling Trucks
Stewart Trucks
Stockton Tractors
Stoughton Trucks
Straubel Engines
Sullivan Trucks
Super Trucks
Swartz Lighting Plants
S-S-E Co.
Tiffen Trucks
Tioga Tractors
Titan Trucks
Tower Trucks
Trego Motors
Union Marine Engines
Universal Trucks
United Trucks
Van Blerck Motors
Veerac Motors
Vim Trucks
Wallace Tractors
Walter Trucks
Ward La France Trucks
Westcott
White
White Hickory Trucks
Whitney Tractors
Wichita Trucks
Wilson Trucks
Wisconsin Motors
Wolverine Tractors
Woolery Ry. Motors

U. S. Pat. No. 1,135,727, April 13, 1915; U. S. Pat. No. 1,216,139, Feb. 13, 1917. Other Patents Pending.

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The Strongest Wire Wheel on the Market

We all know that National Wire Wheels sell themselves by their beauty. That is why so many car owners are installing them. That is why so many dealers are making large profits and building up a high-class clientele by their sale.

Motorists are now learning, however, that behind the beauty of National Wire Wheels lies greater strength than has been developed in any other wire wheel.

By mechanical, mathematical test, National Wire Wheels are found to possess five times the strength of any wooden wheel.

This is due to a method of cross-lacing—an exclusive National Wire Wheel feature. It enables National Wire Wheels to withstand lateral, radial, and tangential strain. Also it makes them, size for size, lighter and more durable than any other wire wheel.

The sale of National Wire Wheels is a great business—a growing business—an exceedingly profitable and creditable business for any dealer to engage in. It brings the right kind of people into your store; the right kind of profits into your pocket.

Our "Pasco Type" wire wheels will prove a strong seller to your customers who drive Overland 4's, Chevrolet 490's or Fords. Thousands of motorists have already added to the attractiveness and efficiency of these cars by adopting the "Pasco Type".

Write Us While We Still Have Desirable Territory Open for Representation

NATIONAL WIRE WHEEL WORKS, Inc.

General Sales Office: Detroit, Michigan, U. S. A.

Factory—Hagerstown, Md.

Northern Electric Co., Ltd., Montreal, Canada, and Branches

National

Wire Wheels

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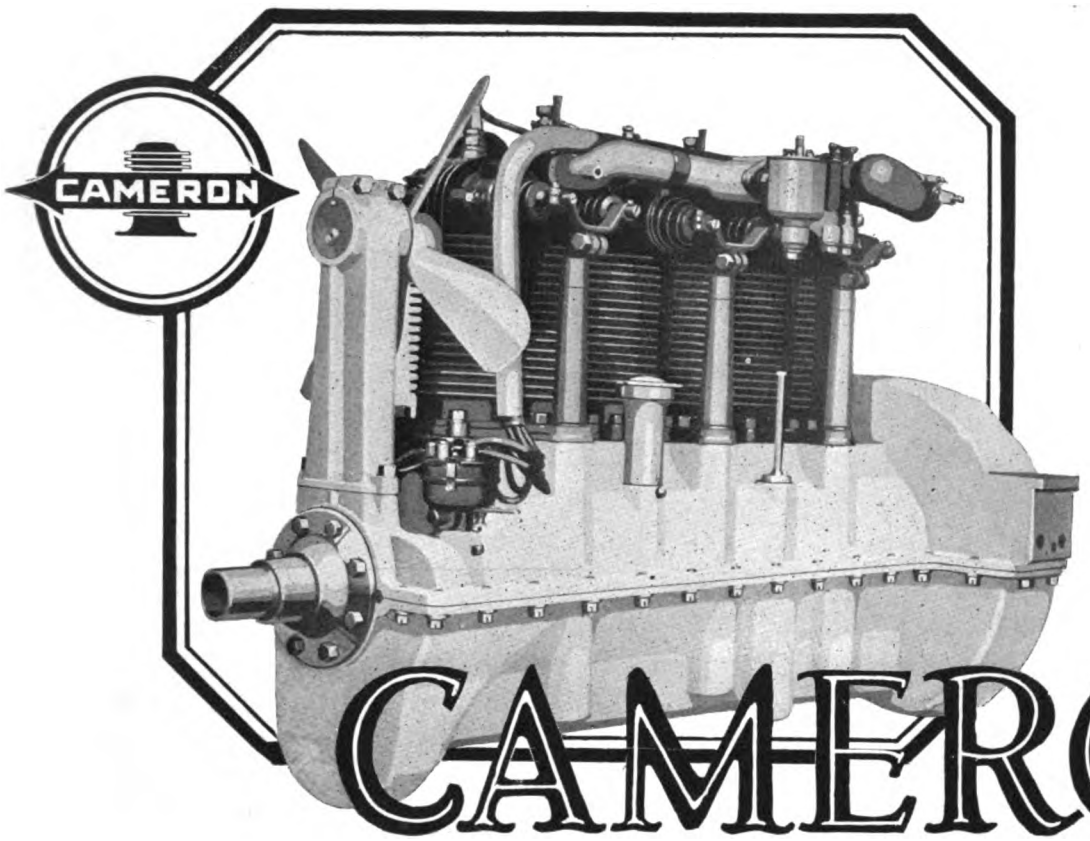

CAMERON AIR-COOLED PATENTED MOTORS

Minus Water, Radiators, Pumps and Piping

From every standpoint of efficiency, economy and safety the air cooled engine is now proving its dominance over all water cooled types.

Automotive engineers interested in this radical development will find sound features of utility incorporated in Cameron design which all unite to make the radiating work of the flanges efficient to the highest point.

Cameron engineers noted the failures common to the functioning of water cooled types that were simply flanged. It was evident that critical points of heating could not be controlled and that the movement of hot gases was not rapid enough to allow adequate surface cooling.

They then designed and built this Cameron Motor—a type covered with patents broad enough to give it a working individuality that cannot be duplicated.

The design is simple and direct. The size and position of the valves, the means of operating them and interior conformation of the cylinder heads, make its ample cylinder and valve cage flanges consistent and unvarying radiators of heat. Their work holds engine temperature at a pre-determined point even under working conditions that would put the water cooled type out of business.

Let us help you to solve your production problem.

OUR MANUFACTURING FACILITIES WILL INSURE PROMPT DELIVERY ON QUANTITY ORDERS BOTH LARGE AND SMALL.

We also issue manufacturers' license of our Patents covering the following bore and stroke ratios: 2½x4, 3x4½, 3½x5, 4x5½, 3⅝x5½, 4¼x6

CAMERON MOTORS CORPORATION 2 Columbus Circle :: NEW YORK CITY

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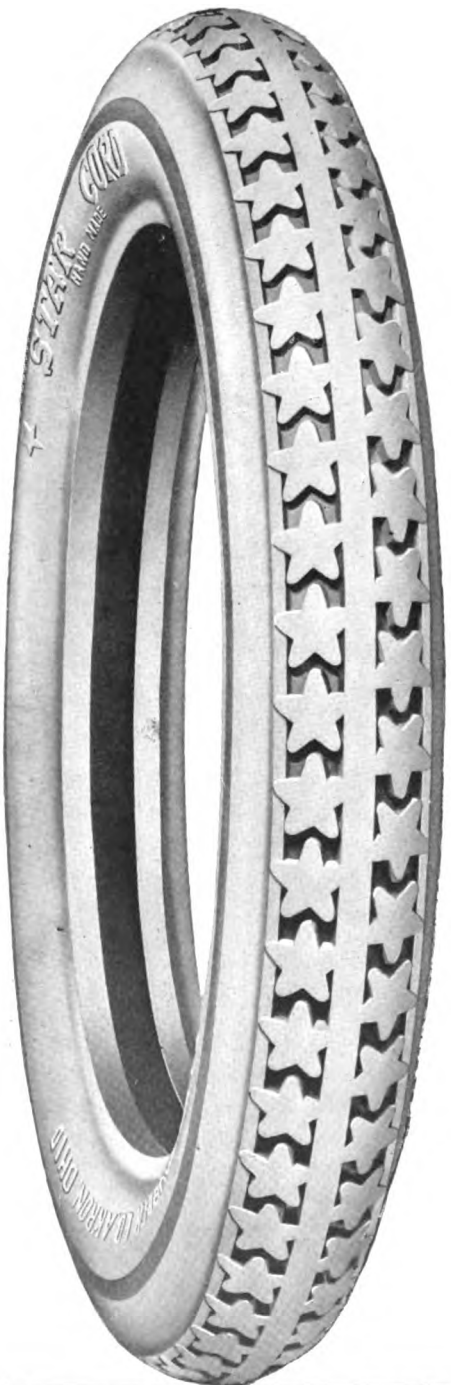
Not Cheap Tires —But Cheap MILEAGE



Even if some car owners *do* ask for low priced tires, hoping to get cheap mileage from them, experience finally convinces them that it can't be done.

—at least, it does when they have an opportunity of comparing the relative **COST** of "standard tires" and unusually well made tires like Stars.

Have them try one Star Tire. And when they find that it outlasts several average tires—and practically eliminates ordinary road trouble—it means "Stars all around."

That is what many of the Dealers who sell Star Tires tell us.

Their Star Tire departments are very profitable —and we help build them with time proved advertising and sales helps.

And the Star Franchise is exclusive — the business you build is your own. Shall we send you the details?

THE STAR RUBBER COMPANY
AKRON'S MASTER TIRE BUILDERS
1074 CROZIER ST.:: AKRON, OHIO

Waterhouse & Lester Co.
California Distributors

Los Angeles
325-345 North Los Angeles St.

San Francisco
540 Howard Street

Portland, Oregon
Fifth Street at Davis

Dallas, Texas
2218-20 Main Street

Seattle
The Whiton Hardware Company

STAR CORD TIRES

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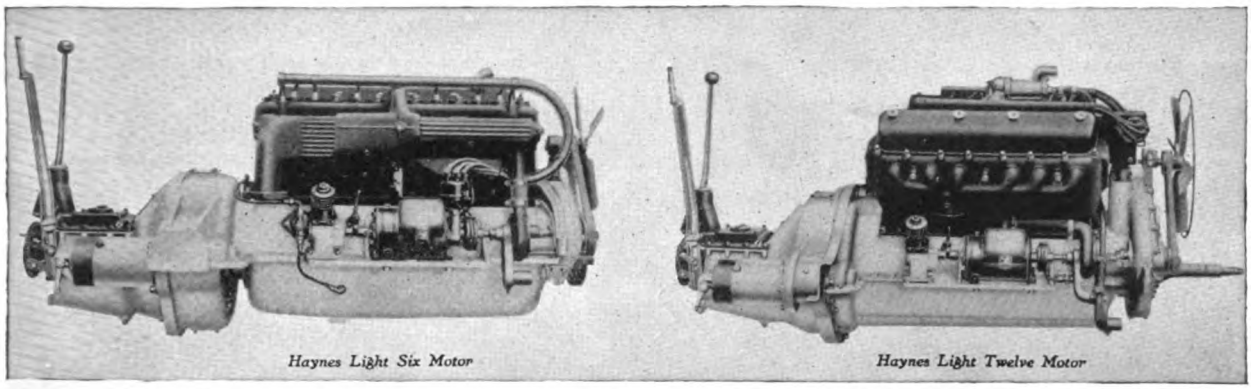
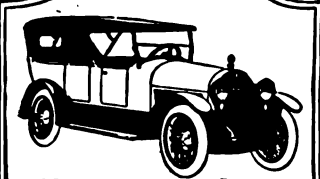


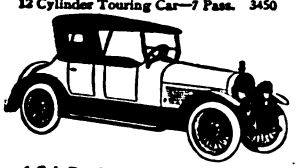
Haynes Light Six Motor

Haynes Light Twelve Motor

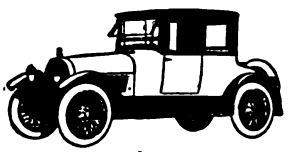
THE HEART *of the* NEW HAYNES
HAS AN ABUNDANCE OF VELVETY POWER



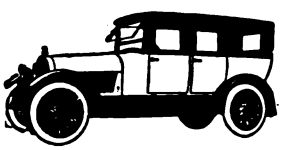
6 Cylinder Touring Car—7 Pass. $2685
12 Cylinder Touring Car—7 Pass. 3450



6 Cyl. Roadster—4 doors, 4 Pass. $2685
12 Cyl. Roadster—4 doors, 4 Pass. 3450



6 Cylinder Coupe—4 Passenger $3300
12 Cylinder Coupe—4 Passenger 4000



6 Cylinder Sedan—7 Passenger $3550
12 Cylinder Sedan—7 Passenger 4200

Cord tires and wooden wheels standard equipment on all 6 cylinder cars. Cord tires and flow wire wheels standard equipment on all 12 cylinder cars

Prices are F. O. B. Kokomo

Attention Haynes Owners!

Special Sale **of attractive** ***Demountable Tops.*** **If you drive one of the following Haynes models, write us for demountable top prices and details.**

Model 22-T	Model 28-T
Model 25-T	Model 29-R (2 Doors)
Model 26-R (4 Pass.)	Model 29-R (4 Doors)
Model 24-T	Model 32 (5 Pass.)
Model 37-R (4 Pass.)	Mod. 39-T (long type)
Model 38-R (4 Pass.)	Model 44-T

Immediate Demountable Top Deliveries

HAYNES

America's First Car

THE Haynes motor has always been an integral part of the Haynes automobile—ever since Elwood Haynes, more than twenty-seven years ago created America's first car. A large part of the enviable reputation of the Haynes has been built upon the stamina and dependability of the famous Haynes motor. The Haynes motor is manufactured by experts in the Haynes factories.

Haynes engineers, profiting by twenty-seven years of experience, have from time to time developed improvements to the motor. Like the new Haynes itself, the Haynes motor is a token of the constant progress of automobile-making in which the Haynes has led.

Whether it is the Light Six or the Light Twelve motor, it is designed and perfected for its special functions. To secure the fullest power from the gasoline used, to transmit that power most effectively to the driving gear, to respond promptly and surely to the demands made upon it, to live and endure under all manner of usage, and constantly to give that confident, velvety power which is its distinguishing quality—these are the outstanding characteristics of the famous Haynes motor.

Prospective car owners may place their dependence upon the Haynes motor which carries with it an engineering record of twenty-seven years of unbroken advancement. The abundance of velvety power of the famous Haynes motor is the keystone of the four factors of character to be found in the new Haynes—beauty, strength, power and comfort. The Haynes car is 90% Haynes made in the mammoth Haynes factories which are devoted to the exclusive manufacture of fine automobiles.

A beautifully illustrated catalog, will be sent on request. Address Dept. 249.

The Haynes Automobile Company, Kokomo, Ind., U. S. A.

The Haynes, AMERICA'S FIRST CAR, now exhibited by the Government at the Smithsonian Institution, Washington, D. C., was invented, designed and built by Elwood Haynes, in 1893.

This advertisement copyrighted, 1920 by The Haynes Automobile Company.

1893—THE HAYNES IS AMERICA'S FIRST CAR—1920

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Extra Tested

Now 1920 Profits

The Racine Line—Multi-Mile Cord and Country Road Fabric Tires, Inner Tubes and Supreme Tire Sundries—is *the 1920 profit line.*

Nation-Wide Advertising

Racine Extra Tested Tires contain the supreme mileage achievement, Racine Absorbing Shock Strip. Exclusive feature. Racine dealers cash in on Racine National Advertising—*get repeat business.*

Smashing pages in biggest publications work for you all the time. Sales-making dealer helps—the right kind. Distributors located to render constant service.

Write TODAY for money-making facts.

RACINE RUBBER COMPANY
RACINE, WIS.

RACINE TIRES

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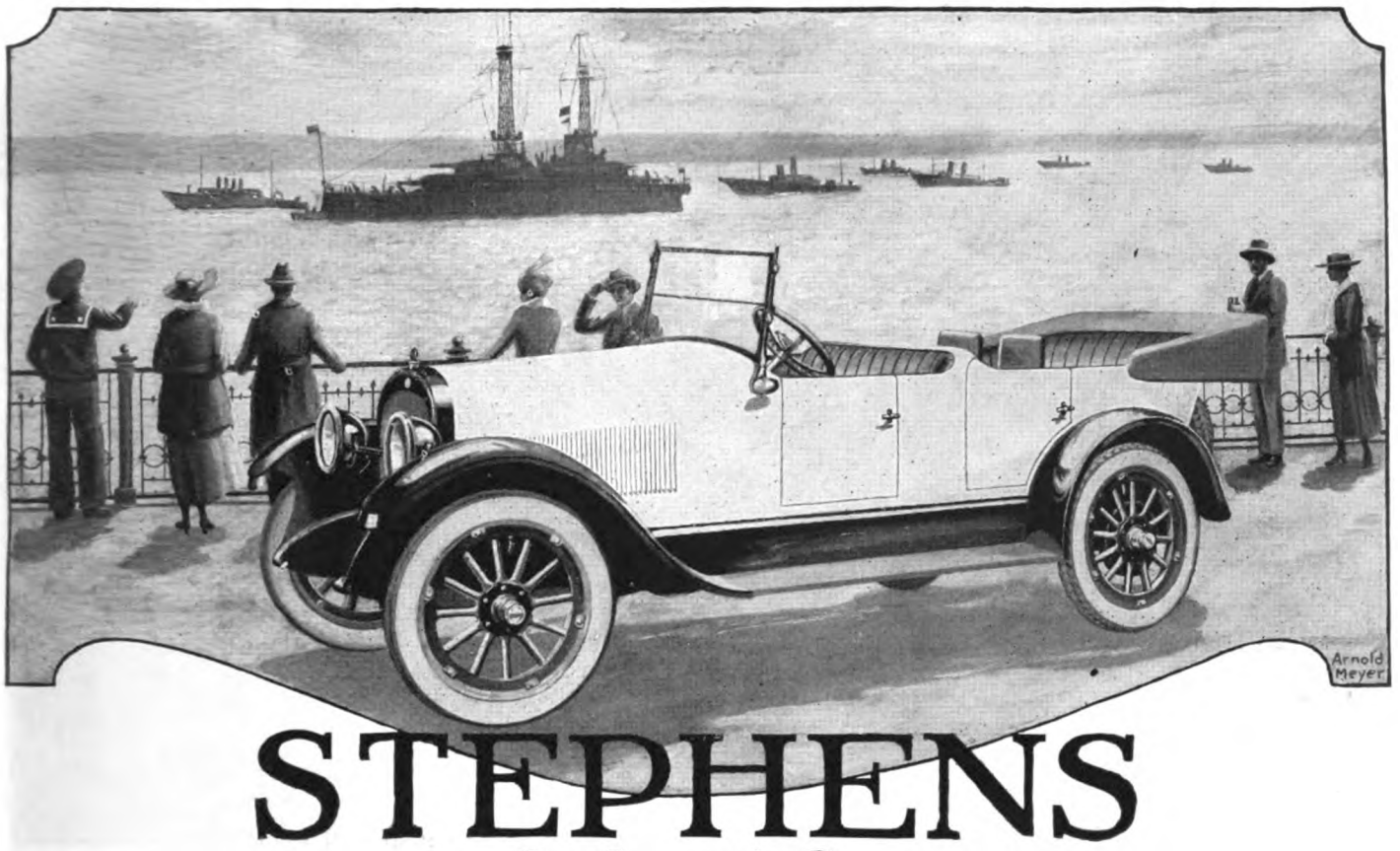

STEPHENS

Salient Six

A Greater Value—A Greater Service

SALIENT—

"That is Salient which is strikingly manifest, or which catches the attention at once."—WEBSTER.

Stephens Bodies are hand-built with the same painstaking care and workmanship that is given the finest hand-built custom bodies.

From the day the first priming coat is applied until the last coat is on, set and dried in a dark room, it is in constant process of painting, drying and hand-rubbing.
It is interesting to know that it takes thirty days to finish each Stephens Body.

Both In One Motor Car

The Stephens is the Salient Car among Cars.

By reason of outstanding excellence in all its qualities and features as well as its acts of performance, the Stephens is a car of greater value and greater service.

In this one motor car, you can possess and take pride in Stephens hand-built bodies, which bear those salient earmarks of highest value:

—American style bodies, with colors that are rare and warm and a finish that is charming, rich and lasting;

—Enjoy also the service of the powerful and economical Stephens engine, S.A.E. rated at 25.3 Horse Power, yet develops 57—the most powerful and most economical for its size in passenger automobiles;

—An engine that is no respecter of the grades of gasoline you feed it—that burns all the gas and the lowest grades without lessened performance;

—An engine with vast reserve power, that makes the Stephens a Salient, all-around road-performer;

—Combining speed, endurance, flexibility, hill-climbing ability, smooth-riding and quietness at their maximum.

All combined in one motor car—the Stephens Salient Six—to bring the height of satisfaction to you.

Fisk Cord Tires Regular Equipment on All Models.

Arrange to see the Stephens Salient Six—Get our Dealers' Proposition.

Stephens Motor Works

of **Moline Plow Company**

Moline, Illinois

FACTORIES: FREEPORT, ILLINOIS

A GREATER VALUE - A GREATER SERVICE

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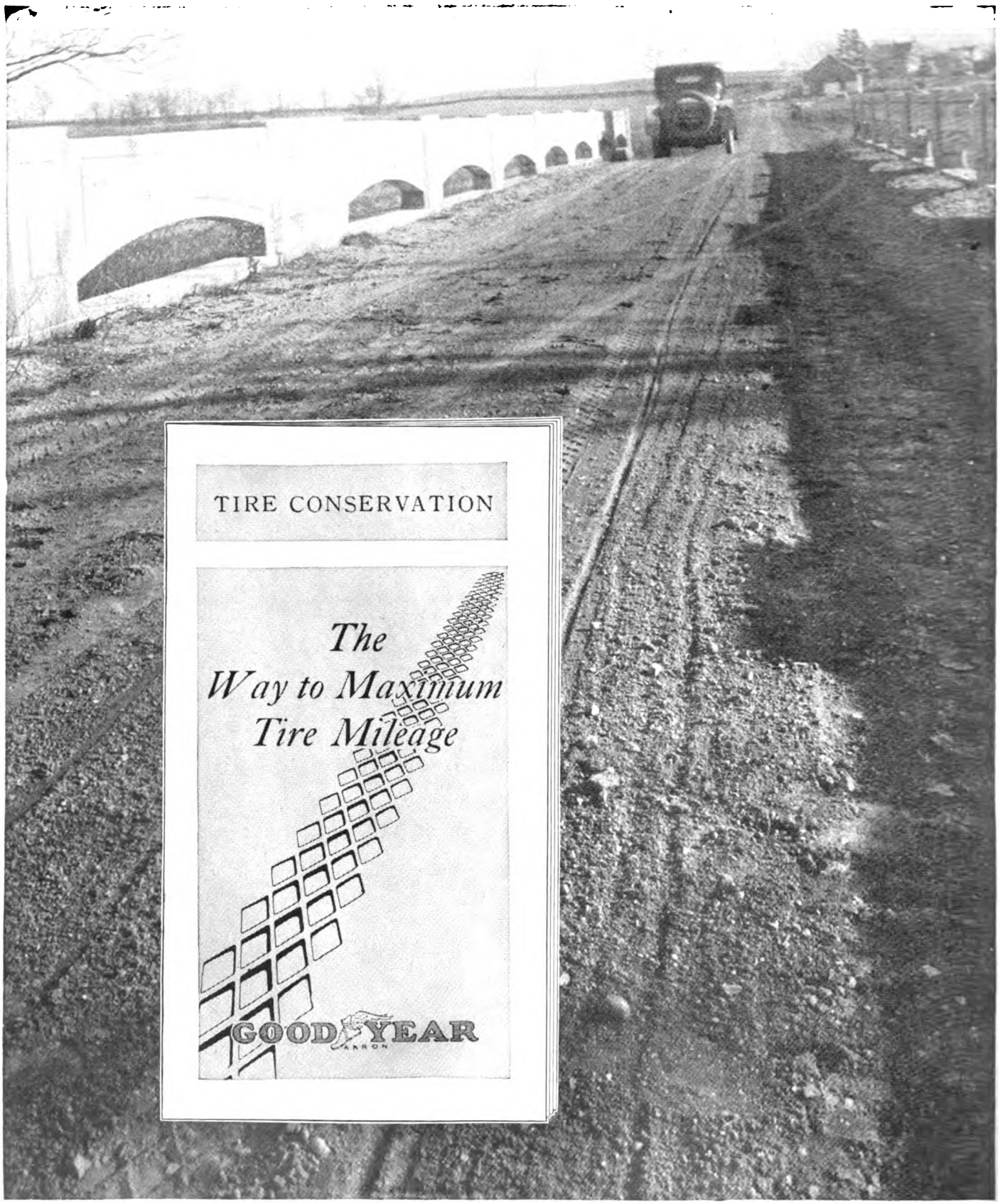

A series of six tire conservation lessons, like the one pictured above, are furnished to all Goodyear Service Station Dealers for free distribution. They show in detail the cause, result and method of curing all tire injuries

Copyright 1920, by The Goodyear Tire & Rubber Co.

GOODYEAR

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The Way to Maximum Tire *Sales*

THE largest single group of tire users in the world agree that the first step on the way to maximum tire mileage is a set of Goodyear Tires.

A large proportion of these users also realize that the fine quality of Goodyear Tires is ably supported by the Goodyear Plan of Service, with its conservation lessons, its timely help, and its tire savers.

It is obvious then, that the Goodyear Service Plan which furnishes to the consumer *maximum tire mileage*, is the same plan which furnishes to the dealer, *maximum tire sales.*

In addition, the Plan sells Goodyear Tire Savers, in quantities, at satisfactory dealer profits. For tire users want Goodyear Tire Savers and they buy them.

This means that dealers should carry an adequate supply of Goodyear Tire Putty and Cement, Tube Patches and the Inside Protection Patches. A case full suggests purchases. It is part of the Goodyear Service Plan.

The Goodyear Service Plan makes substantial profits for Goodyear Service Station Dealers, because it sells more Goodyear Tires and more Goodyear Tire Savers. It is the way to maximum tire sales.

If you are not already fully informed concerning the profits to be derived from the sale of Goodyear Tire Savers, ask a Goodyear Salesman or write to The Goodyear Tire & Rubber Co., at Akron, Ohio.

TIRE SAVERS

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SCHWARZ WHEELS

NOTE THE WOOD WHEELS EVERYWHERE

WITH INTERLOCKED SPOKES

The only spider that can be safely stocked

Every spoke in a Schwarz spider is self-supporting. The interlocked construction makes the spider almost as rigid and strong as a completed wheel.

The superiority of wood for wheel construction has been established by centuries of service. The Schwarz interlocked spoke construction is merely an improvement on an already approved wheel.

We are the exclusive distributers on the Pacific Coast for Schwarz wheels and spiders. Any size for passenger cars and trucks can be shipped immediately from our complete stocks at San Francisco and Los Angeles.

Write for ***prices***

SCOVEL IRON STORE CO.

SAN FRANCISCO SISCO LOS ANGELES

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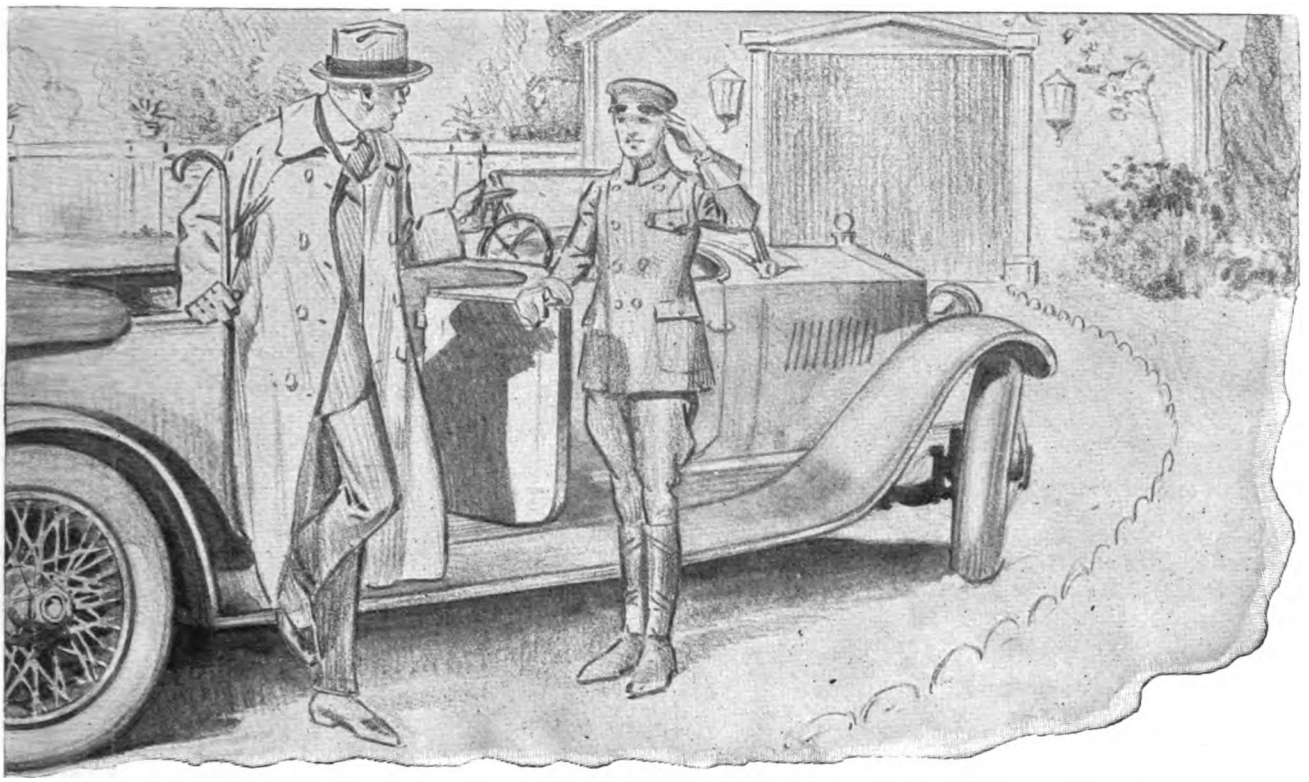

Thanks for the Compliment!

It's no trouble to keep the car bright, sir, since I've been using

Waxit

"The Perfect Polish"

"I go over the car with WAXIT once or twice a week. No trouble at all. I moisten a cloth and rub lightly. The dust and dirt clean right off and the finish shines just like you see it now, sir."

Owners of the finest cars instruct their chauffeurs to use only WAXIT. Owners who care for their own cars use it for **ease** and **quickness** of RESULTS. Cleans and polishes in one operation. Leaves a dry surface.

It's the same polish that housewives have found unequalled for the piano and mahogany furniture.

Ask your dealer for WAXIT—if he can't supply you, send us coupon and ten cents for trial package.

DEALERS: Waxit does a better and quicker job of polishing than any other preparation. Big seller! Write for full size package.

Gladly send it gratis with our dealer's proposition.

WAXIT MANUFACTURING COMPANY
1673 Plymouth Bldg.,
Minneapolis, Minn.

Waxit Mfg. Co., 1673 Plymouth Bldg., Minneapolis, Minn.
Kindly send me sample bottle of Waxit, for which I am enclosing ten cents. My dealer's name is:

Name .....
Address .....
City ..... State .....

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A Sign Backed by Service

The Bijur Motor Appliance Company specializes in the design and manufacture of starting and lighting equipment. A ten-story plant located in Hoboken, N. J., is devoted entirely to the manufacture of electrical equipment and supply parts for passenger cars, trucks, seaplanes, airplanes, blimps, and other automotive machines.

Complete Bijur Equipments, including Motor, Generator, Gear Shift and Supply Parts, are made under one roof at the Bijur Plant.

The Bijur System was first adopted by Packard in 1912. Today it is standard equipment on Commerce Truck, Grant, Jordan, King, Marmon, National, Packard, Roamer, Templar and Winton cars and has recently been adopted by Peugeot of France.

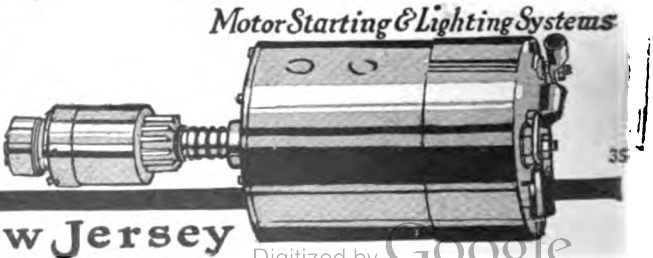
Over 130 Bijur Service Stations in the leading centers of the country are provided with complete information concerning the various models in service and spare parts and supplies manufactured by the Bijur Motor Appliance Company are carried in all the leading cities of the country.

Where to get the Bijur Service

ALABAMA	
Birmingham	Birmingham Electric Garage.
ARIZONA	
Phoenix	Western Machinery Co.
Tucson	Western Machinery Co.
ARKANSAS	
Hot Springs	Arkansas Battery Co.
Little Rock	Brown & Holland.
CALIFORNIA	
Bakersfield	Mongerson Electric Machine Works.
Berkeley	Motor Electric Co.
El Centro	Electrical Service Co.
Fresno	United Auto Electric Company.
Lindsay	Central California Elec. Co.
Long Beach	Automotive Electric Co.
Los Angeles	Electric Equipment Co.
Oakland	Motor Electric Co.
San Diego	Auto Electrical Equip. Co.
San Francisco	Automotive Service Agency.
COLORADO	
Denver	The Electric Service & Eng. Co.
CONNECTICUT	
Bridgeport	Electric Auto Service & Supply Co.
Hartford	Robt. R. Ashwell.
New Haven	The New Haven Elec. Co.
DISTRICT OF COLUMBIA	
Washington	Miller-Dudley Co.
DELAWARE	
Wilmington	Wilmington Storage Battery Co.
FLORIDA	
Jacksonville	Ward Eng. & Battery Co.
Miami	Ward Eng. & Battery Co.
GEORGIA	
Atlanta	Paul D. O'Kelly Company.
IDAHO	
Boise	Western Ignition & Battery Co.
Pocatello	Edwards-Warden Motor Parts Co.
ILLINOIS	
Chicago	Arthur Jones Electric Co.
Decatur	Decatur Battery Service Sta.
Dixon	Auto Electrical Service Station.
Lincoln	Chapin Electric Garage.
Peoria	Electrical Testing Co.
Springfield	Chapin Electric Garage.
INDIANA	
Elkhart	Auto Specialties Co.
Evansville	B. N. Sieffert.
Fort Wayne	Nill & Herman.
Indianapolis	H. A. Electric Co.
Lincoln	Chapin Electric Garage.
Terre Haute	J. S. Cox.
Vincennes	Myer's Garage.
IOWA	
Cedar Falls	Noble & Kingman.
Cedar Rapids	Monroe Battery Co.
Davenport	Emels Mfg. Co.
Des Moines	Glyde & McNamara.
Fort Dodge	Iowa Service Station.
Jefferson	W. H. Hamilton.
Keokuk	Keokuk Elec. & Battery Co.
Sigourney	Friday's Battery & Elec. Service.
Sioux City	Arthur Electric Service Co.
KANSAS	
Arkansas City	Mears Brothers.
Topeka	Keele Electric Co.
Wichita	The E. S. Cowie Elec. Co.
KENTUCKY	
Louisville	Rommel-Smith Motor Co.
MARYLAND	
Cumberland	The Automobile Repair Co.
MASSACHUSETTS	
Boston	The Eisner-Lenk Co.
Fall River	J. W. & J. H. Isherwood & Co.
Salem	Alexander Michaud.
Springfield	Krohne's Service Station.
Worcester	Jenkins & Robinson.
MICHIGAN	
Detroit	Auto Elec. & Service Corp.
Grand Rapids	Leon. S. Heth Company.
MINNESOTA	
Duluth	United Electric Service Co.
Minneapolis	Reinhard Bros. Co., Inc.
MISSOURI	
Joplin	Sorber-Kuhn Auto Supply Co.
Kansas City	The E. S. Cowie Elec. Co.
St. Joseph	Utz Electric Shop.
St. Louis	S. G. Hoffman Magneto Co.
MONTANA	
Butte	McGrew Service Shop.
NEBRASKA	
Lincoln	Randall & Noll.
Omaha	Auto Electric Service Corp.
NEVADA	
Reno	Brown & Milberry.
NEW HAMPSHIRE	
Manchester	Ernest E. Austin.
NEW JERSEY	
Hoboken	Bijur Motor Appliance Co.
Newark	Barter-Oppenheim, Inc.
NEW MEXICO	
Albuquerque	The McClosky Automobile Co.
Deming	Deming Storage Battery Co.
NEW YORK	
Albany	Autoelectric Equip. & Repair Co.
Amsterdam	A. A. Sealey, Jr.
Binghamton	Elliott Engineering Co., Inc.
Brooklyn	P. J. Durham Co., Inc.
Buffalo	Meinhard Auto Service & Supply Co.
New York City	P. J. Durham Co. Inc.
Poughkeepsie	Pease Electric Service.
Rochester	Starter & Ignition Service Co.
Schenectady	A. A. Sealey, Jr.
Syracuse	Burr-Williams, Inc.
Troy	A. A. Sealey, Jr.
Utica	Stiefvater Elec. Co.
NORTH CAROLINA	
Asheville	Asheville Battery Co.
NORTH DAKOTA	
Fargo	Fargo Plumbing & Heating Co.
OHIO	
Akron	A. M. Allen Electric Co.
Canton	The Canton Eng. & Elec. Co.
Cincinnati	Boyle Engineering Co.
Cleveland	Bissinger Magneto Co.
Columbus	Bissinger Magneto Co.
Dayton	L. C. R. Storage Battery Co.
Toledo	Elec. Power Maintenance Co.
Tiffin	Fleck's Electrical Service Station.
Springfield	National Elec. Co.
Wooster	Larwill's Service Garage.
OKLAHOMA	
Oklahoma City	Johnson Electric Company.
Tulsa	Walsh Electric Company.
OREGON	
Pendleton	Wm. R. Chase Eng. Co.
Portland	Sunset Electric Co.
PENNSYLVANIA	
Allentown	Auto Electric Co.
East Liberty (Pittsburgh)	Doubleday-Hill Elec. Co.
Philadelphia	Auto Equip. & Service Co.
Reading	Berk's Auto & Ignition Co.
Uniontown	Reed Automotive Service.
RHODE ISLAND	
Providence	American Ball Co.
SOUTH CAROLINA	
Charleston	Gas Engine & Electric Co.
Columbia	Auto Electric Co.
SOUTH DAKOTA	
Sioux Falls	Auto Electric Service, Inc.
TENNESSEE	
Knoxville	McNutt & Co.
Memphis	Bluff City Elec. Co.
Nashville	Norman Battery Service.
TEXAS	
Abilene	Carter's Auto Repair Shop.
El Paso	Western Battery & Magneto Co.
Dallas	Automotive Electric Company.
Houston	Hurlburt-Still Elec. Co.
San Angelo	S. X. Callahan.
Fort Worth	Starter Service Co.
UTAH	
Salt Lake City	Edwards-Warden Motor Parts Co.
VIRGINIA	
Norfolk	Reliance Elec. Co.
Richmond	Southern Auto Repair Co., Inc.
WASHINGTON	
Seattle	Sunset Elec. Co.
Spokane	Wm. E. Chase Eng. Co.
Wenatchee	Electric Supply Co.
Yakima	Wm. E. Chase Eng. Co.
WEST VIRGINIA	
Wheeling	McKelvey-Ewing Electrical Co.
WISCONSIN	
Kenosha	Auto Service Co.
Oshkosh	Langstadt-Meyer Co
Madison	Madison Battery & Service Co.
Milwaukee	Wisconsin Magneto Exchange.
Sheboygan	Acker Electrical Co.
FOREIGN	
CANADA	
Montreal, Que.	Fehr Bros.
Winnipeg, Sas.	Michael Ert, Ltd.
ENGLAND	
London, W.	Duncan Watson Co.
AUSTRALIA	
Adelaide	Duncan & Fraser, Ltd.
SOUTH AFRICA	
East London	Evans & Co., Ltd.
NEW ZEALAND	
Wairca, H. B.	H. D. Marsh, P. O. Box No. 41.

Bijur Motor Appliance Company

Motor Starting & Lighting Systems



Hoboken New Jersey

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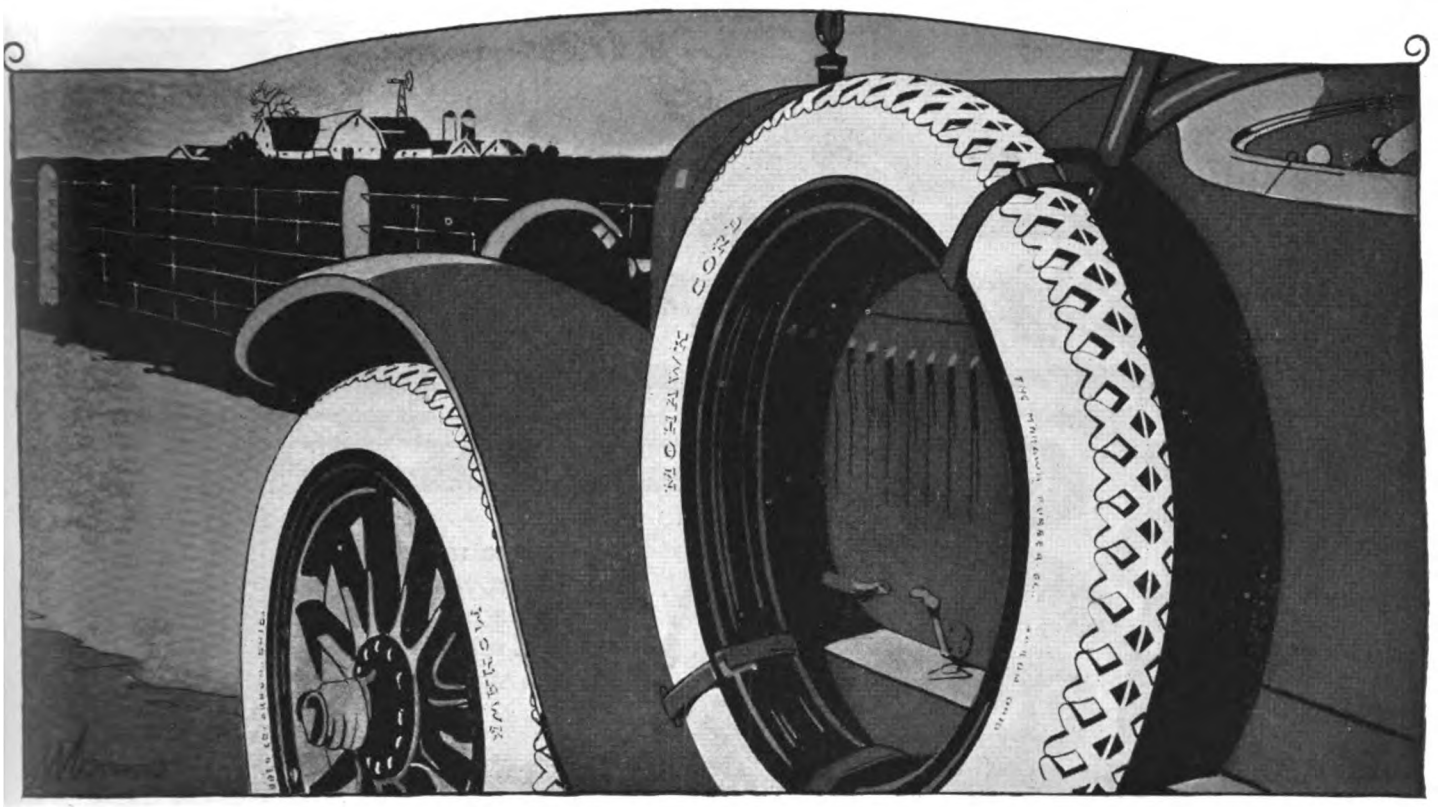

They Make Consistent Customers

Turnover of customers is expensive. Every time a regular customer breaks ranks—it costs time, money and effort to fill the gap.

Records show that Mohawk Dealers experience but a fraction of the ordinary turnover in customers. Their patrons are consistently Mohawk Buyers. There is nothing mysterious or secret about this fact. The reason for it is reasonable and logical.

For seven years, since the first Mohawk Tire was built, Mohawks—both Cord and Fabric—have been consistently *quality* tires. Not for a day nor an hour nor a minute of a working day in these seven years has this quality deviated.

Only the very best rubber—only the toughest 17¼ ounce Sea Island Cotton Fabric are used in Mohawks. "Fillers" such as barytes, glue, rosin, clay, whiting—are never permitted to be a part of them.

Then too, every Mohawk is hand-made for the sake of uniformity. An extra ply of fabric is used in most sizes of the fabric tires because of the longer wear that it insures.

Consistently for seven years, Mohawks have been made this way—quality thru and thru.

Consistency attracts consistency. That is why Mohawk, a consistently quality tire, has consistently retained customers. Statistics show that 85% of those who buy their first Mohawks continue to use Mohawks exclusively.

We are always glad to talk to high-grade tire dealers.

MOHAWK RUBBER COMPANY, AKRON, OHIO

DISTRIBUTORS

JENSEN-KING-BYRD Co.,
320-324 Riverside Avenue,
Spokane, Washington.

MUNNELL & SHERRILL,
40 First Street,
Portland, Oregon.

RUBBER SERVICE CO.,
1023 E. Pike Street,
Seattle, Washington.

MOHAWK "Quality" TIRES
HAND MADE

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On the hills

RED CROWN GASOLINE

Up the mountain or city hill, "Red Crown" gives steady, dependable power. To always get the "old reliable," look for the Red Crown sign before you fill.

"Red Crown" is all-refinery gasoline with the full and continuous chain of boiling points necessary for ready starting, quick and smooth acceleration, steady, dependable power and long mileage.

STANDARD OIL COMPANY
(California)

The Gasoline of Quality

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STORM
MOTOR REPAIR EQUIPMENT

Storm Standard Reboring Machines have been tested, approved and are being recommended by all leading jobbers and manufacturers throughout the world. *Made by practical men for practical purposes.*

Makes You Able to Handle Any Motor Repair Job

GIVE your customers quick service on first-class repairs. Sending out the most profitable jobs to other repair shops means loss of time and money. Storm Tools will equip you for every class of repair work. You can make the dull season a profitable period in general overhauling and rebuilding. You will soon become known as the leading repair shop in your community.

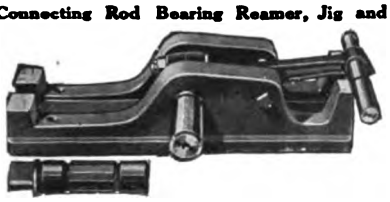
Storm Equipment is standard and is built for hand or power operation. No matter how small your garage is—or how large—we can supply you with Storm Tools that will increase your output and your profits.

Ask for our catalog and full details. It will pay you to look over our line.

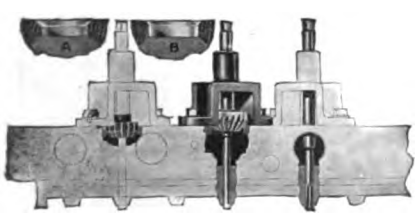
Storm Manufacturing Co.

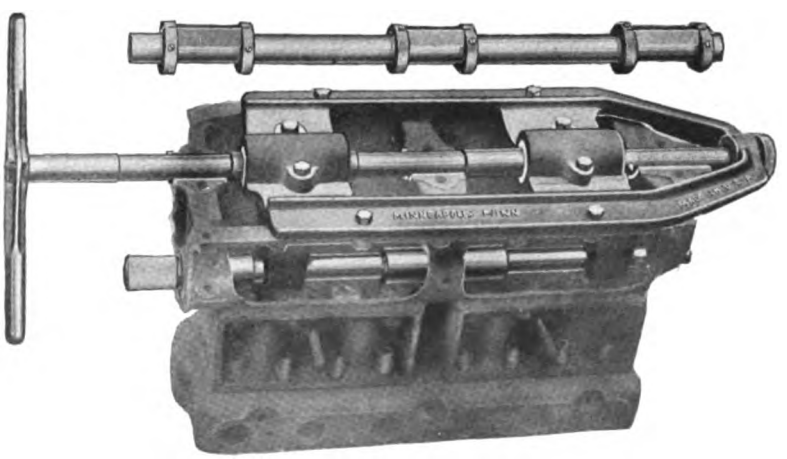
Dept. S **Minneapolis, Minn.**

The Storm Connecting Rod Bearing Reamer, Jig and Straightening Gauge accurately and quickly fits and cleans connecting rod bearings—tests and straightens the rod.



The Storm Valve Port Renewing Tool renews valve systems completely—enlarges the port, produces new narrow seat and new accurate stem guide.





Storm Main Bearing Babbitting and Boring Tools should be used by every shop doing Ford and Fordson work. For making new, *perfect* main bearings in proper position and perfect alignment. *Speedy and accurate.*

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Ten Thousand Dealers

recommend

WHITE STRIPE

In sets of three, $2.00. *Rockies West, $2.25.*
Canadian price, $3.00.

In Rolls, 250 feet, 32c per foot.
Rockies West 35c. *Canadian price 40c*

WHITE Stripe has made good with these dealers—it has *worn* its way into their confidence. They know it is the *best* fabric lining for Fords.

HUNDREDS of thousands of Ford owners have learned, thru hard usage, the true value of White Stripe. They demand White Stripe.

THIS is natural. White Stripe is made specially for Fords. It is made from the highest grade of cotton—woven nto a special wearing weave—treated with a compound that keeps the fabric soft, protects it from hot oil, and keeps a smooth gripping surface.

ARE you one of the ten thousand dealers selling White Stripe? If not, send us your name and the name of your jobber. Let us show you *how good* White Stripe is.

All jobbers sell White Stripe—but to make sure that you get it quickly, write us.

Advance Automobile Accessories Corp.

56 E. Randolph Street **Chicago, Illinois**

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Motor West

THE MOTORING AUTHORITY OF THE PACIFIC COAST

VOL. XXXII, No. 8 | FEBRUARY 1, 1920 | $2.00 PER YEAR

ARIZONA SHOWS A NOTABLE INCREASE

Motor Vehicle Registration in Past Year Reported by Secretary of State; Phoenix Leading.

Motor vehicles registered in Arizona increased more than 21 per cent during 1919, standing at 28,987 on Jan. 1, 1920, according to the secretary of state's annual report. This compares with an increase of a little more than 20 per cent during 1918.

Maricopa county, containing Phoenix, the state capital and metropolis, had 34 per cent of all motor vehicles in the state last year; this year it increased its leadership, registering 11,216 cars, or 38 per cent.

Registrations in the fourteen Arizona counties on Jan. 1, 1920 stand as follows:

Apache	237
Cochise	3,859
Coconino	604
Gila	2,500
Graham	798
Greenlee	507
Maricopa	11,216
Mohave	696
Navajo	625
Pima	2,048
Pinal	992
Santa Cruz	771
Yavapai	2,041
Yuma	1,585

West Leads in Truck Sales.

The Western part of the country led all other sections in sales of Packard trucks in a recent sales contest, the Packard Motor Car Co., of Detroit, announces. The Western sales district had a percentage of 124, overselling its quota nearly one-fourth. The Central district came next, while the East and South fell below their quotas.

Coast's First Aero Show.

The first aeronautical show ever held in the West will be staged in San Francisco at the Municipal Auditorium, April 21-28, according to an announcement made this week by S. S Bibbero, secretary of the Pacific Aero Club.

The show, which is sanctioned by the Pacific Aero Club, will be under management of the Manufacturers' Aircraft Association and will for the first time give the people of the Coast opportunity to see what strides the new aircraft industry has made toward developing commercial planes.

Special exhibits are already being planned and much of the space at the big auditorium has been contracted for. New York and Chicago have staged aeronautical shows with great success and manufacturers and dealers have been amazed and delighted with the enthusiasm which the public has displayed in matters relating to aeronautics.

Among the exhibits that will interest the general public are several famous European battle planes, giant mail planes, huge dirigibles, machine guns, aircraft guns, bombs, touring limousines and racing planes, as well as commercial planes.

Miller Opens Oakland Branch.

In line with its avowed policy of establishing factory branches wherever the dealer requirements are so great as to make them necessary, the Miller Rubber Co., Akron, O., announces a new branch in Oakland, Cal. Under the management of J. A. Hopkins, the Oakland organization is operating directly under the big Miller branch in San Francisco. The territory includes the city of Oakland and several adjacent counties.

Stevens-Duryea Attracts.

Interest in the revived Stevens-Duryea Motor Co. has extended to the Coast, together with sales of the stock of the new company. According to one broker, the entire output for 1920 is already underwritten and there have been 25 applicants for the Los Angeles agency for the car.

Distillate Off the Market.

The Standard Oil Co. has discontinued the selling of distillate, used in many trucks, tractors and motorboats on the Coast. The reasons are rumored to be the increasing shortage of refinable crude oil and the growing demand for gasoline and kerosene.

CALIFORNIA MOTOR VEHICLE FIGURES

Total of 542,298 Registered During 1919, an Increase of 50 Per Cent Over the Previous Year.

The California Motor Vehicle Department reports 542,298 automobiles of all kinds registered in 1919, compared with 364,800 in 1918—an increase of nearly 50 per cent.

In 1914, when the department was begun, 123,516 motor vehicles were registered. The year 1919, therefore, shows a six-year increase of 340 per cent. Deducting all transfers, the California net for 1919 is reduced from 542,298 to 493,463; increase over 1918, 122,663, or 33 per cent.

Counties showing marked increase include: Los Angeles, 33,735, or 31 per cent; San Francisco, 11,719, or 32 per cent; Alameda, 9255, or 37 per cent; Santa Clara, 4341, or 37 per cent; San Joaquin, 3102, or 30 per cent; San Diego, 2790, or 21 per cent; Kern, 2393, or 24 per cent; Contra Costa, 1477, or 37 per cent.

The states leading California are New York and Ohio, New York having a total registration of 563,219 and Ohio 511,300. This apparently places California third.

Licenses of all kinds in 1919 totaled 1,397,213. Of these, 35,210 were for chauffeurs, 691,000 were operating licenses, and 84,000 for dealers of used cars. Gross revenue was $4,468,721.67, compared with $3,540,306.86 in 1918, an increase of $928,414.81. Expenditures totaled $406,593.25. For the first time since its creation six years ago, the department escaped a deficit, having built up in 1919 a $55,000 surplus despite higher costs.

New legislation, requiring license applicants to prove ownership, has increased the department's work, but has benefited owners greatly. The feature has not decreased thefts but is believed to have destroyed the stolen-car market in California, indicating the wisdom of similar procedure in other states.

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GOLDEN GATE IS BUSY, THANK YOU

Oakland Show Found Worth While by San Francisco Dealers; New Deals of Importance Made.

Probably most momentous among recent announcements in the San Francisco automobile dealer field is that of J. E. Nottingham, of Detroit, that he has secured the agency for the R & V-Knight Six car, formerly the Moline-Knight. His sales territory is a large one, embracing Northern California, Nevada, Oregon and Washington. Sales quarters have been opened on Post St.

Two new lines have been taken by the Standard Auto Sales Co.—the Davis Six, built for ten years but comparatively new to the Coast, and the Piedmont Four, built in Lynchburg, Va. Both cars will shortly be well represented in San Francisco, as shipments are well on the way from the East.

Among new factory offerings recently appearing by the Golden Gate are the Jordan Six five-passenger model, slightly smaller than the Silhouette line, the Westcott five-passenger sedan and the five and seven-passenger touring, and the Lexington and Standard Eight models.

The Briscoe, Peerless and Commonwealth car dealers promise prompt delivery; Haynes on roadsters, Dorris on sedans, Biddle, for a time, and Buick, Hupmobile and Chalmers "in rotation."

The first regular shipments of 1920 Lexington models have recently reached the Charles H. Kaar Co.

L. J. Borie has been assured of more liberal shipments of Templar cars in the near future; he has leased the present sales quarters of the Peacock Motor Sales Co., 1350 Van Ness Ave., the latter company due within three months to occupy its own fine new building on the same street.

Expansion of production to 35,000 cars a year each at the Chandler and Cleveland plants will make immediate delivery possible in the near future with the Peacock organization. Contracts they now hold represent more than $7,000,000 and they are now working to overtake orders taken last year.

In one recent week the Western Motors Co. sold 128 Maxwell cars and 16 Maxwell trucks.

The volume of Hudson and Essex sales would be twice as large, had they the cars to deliver, report the H. O. Harrison Co.; if the present demand continues the shortage will probably get worse instead of better. Since the first day of 1919 to a very recent date the Harrison organization has sold 810 Essex cars in Northern California.

Greer-Robbins Co. report that the freight shortage is still hindering Chalmers and Hupmobile shipments; there has been a constant shortage throughout the past year. Many months will elapse before Hupmobiles become plentiful, they announce.

Commonwealth cars are now arriving by regular shipments, according to

The Biddle car will have a special

the White-Humphries Motor Co.

display at the coming Pacific Automobile Show, says Martin M. Hartmann, and a special carload of show models will arrive in San Francisco on the show opening day.

Consequent upon taking over retail sales of Oakland cars, in addition to wholesale, together with Pacific Coast distribution of Globe tires, Hawley, King & Co. have found necessary both larger quarters and a location in the automobile district. At the north end of the automobile row, at Van Ness and Jackson, a three-story building, with mezzanine floor, is to rise, giving Hawley, King & Co. a floor area of 26,000 square feet.

Al. G. Faulkner, Marmon dealer, will shortly occupy his new sales home at Post and Hyde Sts.

On or about Feb. 1st the Cunningham Car Agency will move to new quarters at 1737-49 Jackson St.

Among the motor truck dealers, C. L. Fisher reports ten carloads of Wilson trucks en route for San Francisco and he has prepared to place orders for a minimum of an additional 25 carloads. Immediate deliveries are promised on Grant and Moreland trucks.

Kleiber & Co., local makers of the Kleiber truck, report that the scarcity of engines hindering production has been overcome and Kleiber output has again struck its stride.

Many dealers, either directly or through their Oakland distributing connections, were well represented at the recent Oakland automobile show. Of the forty-nine or more car and truck lines exhibited, some twenty were shown directly by San Francisco automobile dealers.

BAILEY-DRAKE COMPANY BRANCH MANAGERS GATHERED AT CHICAGO HEADQUARTERS.

The Bailey-Drake Company began in San Francisco in 1908. Its business ability indicated, as a doctor would say it, the national field; and its headquarters now are in Chicago, where it sells, nationally, for a dozen accessory manufacturers. The picture, taken in Chicago during a 1920 sales-planning convention, shows ten enthusiastic branch managers of the company. President Fred F. McGraw states that the company's sales operations now cover this country and Canada, with branch offices in New York, Detroit, Atlanta, Dallas, Kansas City, St. Louis, Minneapolis, Seattle and San Francisco. Offices will be opened soon in Philadelphia and Boston. The company also is rapidly getting into the export field.

James Handles Century-Plainfield.

W. M. James, formerly Pacific Coast representative for the Century-Plainfield Tire Co. has taken over the distribution of the Century product for the Western States and Hawaii Islands and hereafter will operate under the name of Century-Plainfield Tire Sales Co., with offices at 523 and 528 Pacific Building, San Francisco.

The Century-Plainfield Tire Co. has recently acquired 660 feet of ground adjoining the factory at Plainfield, N. J., and work will begin immediately on the construction of a new factory building which will be devoted to the manufacture of cord casings.

A warehouse will be maintained in San Francisco, where a supply of tires and tubes will be on hand at all times to give service to the State distributors and dealers.

Barney Oldfield for Glidden Tour.

Barney Oldfield, former speed king, now president of the Oldfield Tire Co., Cleveland, O., may take part in the Glidden trans-continental tour and has offered a tire service motor truck, to follow the tour.

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Licenses Cost More in Nevada.

Nevada is requiring nearly three times as much to secure automobile licenses this year as in 1919, under the new state law. Automobiles, trucks and motorcycles are charged according to weight and carrying capacity at the rate of 35 cents a hundredweight.

Pamphlets containing the factory weight of every known car and explaining the method of computing fees has been prepared by the Nevada secretary of state. Every passenger is rated as weighing 125 pounds. The Ford owner last year paid $3.50 for a year's license; now he pays $7.43. The Cadillac owner now pays $17.85.

The money goes into the state highway fund to pay off state bond issues.

The Joke Is On Us.

Out in California, one year, instead of changing the license numbers on the automobile, the bear insignia which each plate carried was changed to a poppy. One young lady, entirely ignorant of any such regulations, was driving her absent-minded father's car downtown one day and was held up by a policeman.

"I beg your pardon, miss, but where is your poppy?" asked the policeman.

"Oh," she replied, "he's home with mommy."—Vim.

Plea of Amnesia Fails.

He used to be a nurse in the psychopathic ward of a hospital, and maybe learned something there which he was able to use as suggestion to his lawyer. Amnesia, for instance, is a condition of forgetfulness. If a man is hit hard with the contents of a bootleg, he gets amnesia. But there are other reasons for getting it. This former nurse was arrested in California, charged with defrauding an automobile rental concern out of its due. His lawyer, in court, said the man had suffered from amnesia from November, 1918, until after the arrest. Inasmuch as the accused had served two terms in a Pennsylvania prison and had not enjoyed the hospitality of San Quentin, the judge sent him and his amnesia to that institution for from one to ten years.

Osmond Places Big Contracts.

With the recent signing of a contract with the Butler-Veitch Co., of San Francisco, to handle 100 Fageol trucks during the new year in the Northwest, Jack Osmond, head of the Mitchell Motor & Service Co., of Seattle, Wash., completed all distributing contracts for 1920.

The volume of cars and trucks which the company will sell this year runs into the millions of dollars. Contracts have been placed as follows:

Briscoe Motor Corp., Jackson, Mich., 1,000 Briscoe cars.

Grant Motor Car Corp., Cleveland, O., 500 Grant Sixes.

Mitchell Motors Co., Racine, Wis., 500 Mitchell Sixes.

Jordan Motor Car Co., Cleveland, O., 250 cars.

Nelson Motor Truck Co., Saginaw, Mich., 100 Jumbo trucks.

Butler-Veitch, San Francisco, Cal., 100 Fageol trucks.

These contracts represent a total of 2,250 cars and 200 trucks. The company is having a new building erected for it, to be one of the finest in the Northwest, according to Osmond.

Growth of Denver's Automobile Row.

Denver's automobile district is three blocks wide and a mile long, and 15 new buildings, valued at over $1,000,000, have been or are being completed. Referring to them briefly: MacFarland Auto Co., $200,000; Tom Botterill, Inc., $225,000; Union Motor Co., $50,000; Platt-Fawcett Motor Co., $15,000; National Motor Sales Co., $50,000; Nash-Denver Motor Co., $200,000; Sharman Auto Co., $60,000; H. H. Heiser Co., $150,000; Tom Roberts, $75,000; B. K. Sweeney Electrical Co., $150,000; J. L. Armstrong, $60,000. Many other buildings are going up.

The Annual Registration Rush.

Indicative of similar pressure at San Francisco and Fresno branch offices, not to mention the mail rush at Sacramento, was last week's business at the Los Angeles branch of the California Motor Vehicle Department with applicants for 1920 licenses. On Tuesday, the opening day of tag issuance, 3000 sets of plates were obtained. Last Saturday the number was 5000 for the day. Lines more than a block long waited for their turn. Doubtless many would have mailed their applications, but for the impression that such applications would have to go to Sacramento.

Six Dangerous Turns Eliminated.

Six dangerous turns, on which numerous accidents have occurred, have been eliminated by the opening of the Banta cut-off in the San Francisco district. Incidentally and unfortunately, the town of Banta is also sidetracked by the cut-off.

Bell Car in Northwest.

The Western States Motor Car Co. has been formed in Portland to handle the distribution in Oregon and Washington of the Bell car. J. C. Osler is president of the company and Jack Herzinger, vice-president.

Agent for Gabriel Snubbers.

John T. Dye, of Los Angeles, has been appointed Pacific Coast distributor for Gabriel snubbers, made by the Gabriel Mfg. Co., of Cleveland, O.

MORE MONEY FOR OREGON HIGHWAYS

Legislature Adds to Sum Voted for Roads, Making $28,000,000 Total Investment So Far.

Having now learned by some actual experience the effect of good roads in upbuilding of the state, Oregon is asking for some more of the same. The outstanding feature of the recent special session of the Oregon legislature was the voting of another $10,000,000 in highway bonds, making a total for the state of $28,000,000. The new issue will be used in completing such important units of the state highway program as the Pacific and Columbia River highways.

The special session also passed a law, modeled somewhat after the California law, requiring that all persons who drive motor cars or trucks must take out state drivers' licenses, revocable by the secretary of state when the holder is guilty of reckless driving. The cost of the license will be 25 cents a year.

The legislature failed to amend Oregon's peculiar gasoline test law, which requires that all gasoline sold in the state shall conform to a 56 Baume gravity test. As this requires a specially refined grade of gasoline, California, Washington and other coast states being content with the government gasoline specifications which make no reference to gravity, Oregon motorists have to pay 1½ cents more for their gasoline than those in adjoining states.

Yakima Region Has 10,422 Cars.

According to records of the county auditor's office, Yakima county residents spent more than $2,000,000 for new automobiles in 1919. There are 10,422 licensed motor vehicles in Yakima county, as compared with 7,960 a year ago.

Davis Six in Southland.

The Davis Six car has been taken for distribution by A. E. Negus, of Los Angeles, Cal. The Davis is produced in five models, three open and two closed, with Continental Red Seal engine, Timken bearings, Delco electric equipment and 120-inch wheelbase.

Buys Whole Tractor Output.

A. T. Buchof, of Alameda county, California, has purchased the entire output of the Four-Drive Tractor Co., of Big Rapids, Mich., for several years to come, a report from Detroit has it. The company will produce a minimum of 360 tractors.

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TRADE PROSPEROUS IN SEATTLE FIELD

Northwest Business Excellent While Dormant in East—Largest Show to be Held March 15-21.

New offerings of the Eastern factories continues fairly numerous in the Seattle field, with the demand for cars in the East comparatively dormant for the time being and railroad shipping conditions showing some improvement.

Principal among new arrivals are the Paige Glenbrook model, Auburn Beauty Six sedan, Studebaker 20 series, seven- and five-passenger, Hupmobile sedan, Dixie Flyer and Maibohm Six.

The Dixie Flyer car, built by the Kentucky Wagon Mfg. Co., of Louisville, Ky., will be strongly represented in Washington and Frederick C. Wolf, of Tacoma, new state agent, announces that there is no immediate chance of a shortage of Dixie cars. In Seattle the car will be handled by James W. McCracken.

Two new important agency connections are the result of several radical changes in the policy of the old and well-established firm of Frank Waterhouse & Co. This firm has relinquished the Studebaker car and Denby truck lines.

P. E. Sands, former official of the Waterhouse organization, has taken the Studebaker agency for Seattle and three adjoining counties. He is located in new sales quarters on Eleventh Ave., near Pike Sts., and reports himself in a position to make almost immediate deliveries. Frank Waterhouse is a stockholder in the Sands Motor Car Co.

Following discontinuance by Waterhouse of his Eastern truck agencies, C. S. Mantell, recent truck department manager, has become independent dealer for the Denby truck. The Denby-Mantell Co. is now housed in the former truck factory of the Gersix Motor Truck Co., 2319 Fifth Ave.

The makers of the Gersix, a Buda-equipped truck, produced in three models, are now located in a new factory erected especially for them, at 800-04 N. Fairview Ave. The company plans building 300 Gersix trucks this year.

Entirely new in Washington, the Transport truck agency has been taken by the new Seaboard Motors Co. for the state. Sales quarters have been opened at 309-11 E. Pine St.

Frank C. Herschback has acquired the Washington and British Columbia territory for the Detroit Electric, formerly held by O. L. Willett.

In the Kimball-Horn Motor Car Co., Apperson agency, F. L. Kimball has bought the interest of Horn, who has retired from the firm.

Owing to comparative slackening of Eastern demand, the Dragon Motor Car Co. has been able, the first time in a year, to secure three carloads of Maibohm cars and offers immediate delivery.

A carload of Templar cars equipped with the new all-weather top recently arrived for the Greater Motors Corp.

The Winton Co. local branch announces that booking of orders now for spring delivery means reasonable certainty of having the new car "ahead of the first robin."

Early deliveries are announced as being possible on Maibohm Six, Lex-Sedan, Dixie Flyer, Chevrolet, Studebaker five- and seven-passenger models, Denby trucks and Templar cars, in limited numbers.

TELL YOUR EXPERIENCES.

Cameron Motors Corp., New York, received this in a letter from C. A. Boyce, White Rock, Nev.: "We have a 1909 six-cylinder Cameron air-cooled car which has been driven about 250,000 miles and is still in good order"; and this from Henry J. Scaefer, Cresco, Ia.: "I have driven a model 28, made in Beverly, over 100,000 miles."

There must be others, to others. "Motor West" would be pleased to print 'em, if not too many—which may indicate the belief, which exists, that, taken the country over, there is a surprisingly large number of old ones which still have years of usefulness ahead of them.

Kleiber trucks, built in San Francisco, will shortly be on hand in Seattle in all sizes, according to the Western Motor Sales Co., in new sales rooms at Twelfth and E. Spring St. There are now 120 Kleiber trucks running on Seattle streets, they state.

Unable to get quantity shipments and with their product known only through mouth-to-ear advertising, the Comet Motor Sales Co. nevertheless sold more than 40 Comet trucks since April of last year.

The Seattle Automobile Show will be held March 15 to 21, at the Pioneer Auto Garage, Fourth Ave. at Columbia St., affording a floor area of 75,000 square feet. According to William J. Coyle, show manager, it will be the largest held west of Chicago and will embrace cars, trucks and accessories.

Firestone Changes in the West.

A number of personnel changes affecting district and branch managers, mostly promotions, are announced by the Firestone Tire & Rubber Co. Among them are: San Francisco—L. R. Jackson, former manager of Indianapolis branch, appointed manager of the Pacific Coast district; Denver—G. K. Meeks now manager, formerly manager of the Memphis branch.

Rindge Row Rung Off at Last.

Within 50 miles of the heart of Los Angeles lies the route of what is to be, following present work by state highway engineers, a level, sea-skirting road, part of the Oxnard-Capistrano state highway, connecting Oxnard and Santa Monica, and eliminatng, even for motor trucks it is said, the huge hills of the Calabasas country and long Conejo grade. It is understood travelers between Santa Barbara and points south will find the new road as flat as the Rincon road along the ocean from Santa Barbara to Ventura.

In addition, scenic vistas hitherto concealed, by nature and the Rindge estate litigants, from all except hunters, will be opened.

Horseshoes for Entire Coast.

Racine Horseshoe tires will henceforth be handled throughout the entire Pacific Coast territory by the Pacific Rubber Co. The whole company headed by Roy L. Meads, manager, has branches in Los Angeles and San Francisco and will open other offices in the Northwest.

Roy L. Meads will direct the San Francisco branch and the Northern California territory and the Pacific Northwest, while L. S. Rounsavelle will be manager for Southern California and Arizona with Los Angeles headquarters.

The company recently took over California distribution of Horseshoe tires. For its Los Angeles branch it is erecting a fine two-story building at Eighth and Wall Sts., to be finished about May 1.

For Financing Automobile Sales.

Conservatism of banks and money interests generally, toward the automotive field, is fading fast. Evidence is the increase of concerns for financing sales. In Los Angeles the Pacific Finance Corp., capitalized at $4,000,000, has been formed to provide better credit facilities for automobile dealers. It will absorb such matters now handled by Rule & Sons, Inc., and be under the direction of O. Roy Rule. Lee A. Phillips, prominent in the Pacific Mutual, is president. In Denver the Western Auto Finance Co. has been organized, capitalized at $250,000, to handle all kinds of time sales paper in the automobile business.

Urging More County Engineers.

To get a dollars worth of road, including construction and maintenance, for every dollar spent, is the aim of the California State Automobile Association in urging use of the Ream law, by citizens, to induce supervisors to appoint county engineers instead of dividing counties into districts among themselves.

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Hawley-King to Build.

Fine new sales quarters are to arise at the north end of the automobile district in San Francisco for Hawley, King & Co.

The company, recently wholesale distributor of Oakland cars, took over the retail, together with California, Nevada and Arizona distribution of Globe tires, which made it necessary that it move from its present Polk St. headquarters to a location on the automobile row.

The new building, located at Van Ness Ave. and Jackson St., will have three stories and mezzanine floor and 26,000 square feet of floor space.

E. A. Maginnis Returns.

E. A. Maginnis is back in the Los Angeles dealer field. He lately became manager and a member of Seager-Clark & Co., distributing Jordans. For six years Maginnis was Los Angeles manager for the Oldsmobile Co. of California. He succeeds Robert S. Weaver, who has gone into business for himself, taking the Jordan agency in Hollywood, Glendale, Tropico and Eagle Rock.

To Unmask Illegal Dealers.

At the recent dinner of the Used Car Dealers' Association in Los Angeles, Attorney Dave Smith gave the substance of a proposed ordinance to unmask automobile dealers who pose as mere owners, compelled to sell their cars. The enactment will be based on state law, that any seller of more than an automobile per month is a dealer. The plan is to force all such to procure licenses and display dealers' signs in the English language.

Will Signpost Back to Kansas.

During 1920 the National Old Trails transcontinental highway will be resignposted by the Automobile Club of Southern California from Kansas City, Mo., westward to Southern California.

The southern club will also replace its signs on the Lincoln Highway and the Midland Trail routes from Omaha, Neb., to Ely, Nev., then southward to Los Angeles.

All of its signs will hereafter contain mileage figures. During the year 1919 the club erected 8,929 signs in Southern California. The present year will see a very energetic campaign carried on by the Automobile Club of Southern California to signpost transcontinental roads.

Will Make Everlasting Repair Kit.

Jules Rose and W. M. James, operating under the name of the Everlasting Mfg. Co., making the Everlasting Tire Repair Kit for motorists and automobile necessities, have opened offices in the Pacific Building, San Francisco. Messrs. Rose and James have been associated for a number of years in the automotive industry. Mr. James will act as general sales manager, while Mr. Rose will have charge of the laboratory and manufacturing end. According to Mr. James the outlook is very promising and a big future is predicted.

Takes Davis and Piedmont Cars.

The Davis Six and the Piedmont four-cylinder car will be introduced into the San Francisco territory by the Standard Auto Sales Co., which has taken the agencies in that city. The Davis has been built for ten years and is now represented in Los Angeles and the Northwest. The Piedmont is of newer origin and is built in Lynchburg, Va.

Sell Perry Locks in California.

Distribution throughout California of the Perry automobile lock has been added by the Alemite Lubricator Co., of Los Angeles and San Francisco, to sales of the Alemite lubricating system, according to C. A. Roesch, manager.

McGraw Tires in Southland.

The Southern California distributing agency for McGraw tires has been taken by the Shepherd & Campbell Tire Sales Co., of 1900 S. Main St., Los Angeles.

NEW FACTORY FOR LOS ANGELES CAR

Large Group of Buildings Acquired by Leach-Biltwell Company to Fit 1000-Production Program.

The Leach-Biltwell Co., of Los Angeles, manufacturer of the Leach Power-Plus Six car, has acquired the group of buildings formerly owned by the Republic Motor Truck Co. at Vernon and Santa Fe Aves. in Vernon, a suburb adjoining the city limits on the southeast.

The new plant is up to date, consists of four buildings of all-steel construction and a separate office building, and has 180,000 square feet of floor space. The plant has its own spur track communicating with the Santa Fe Railroad close by.

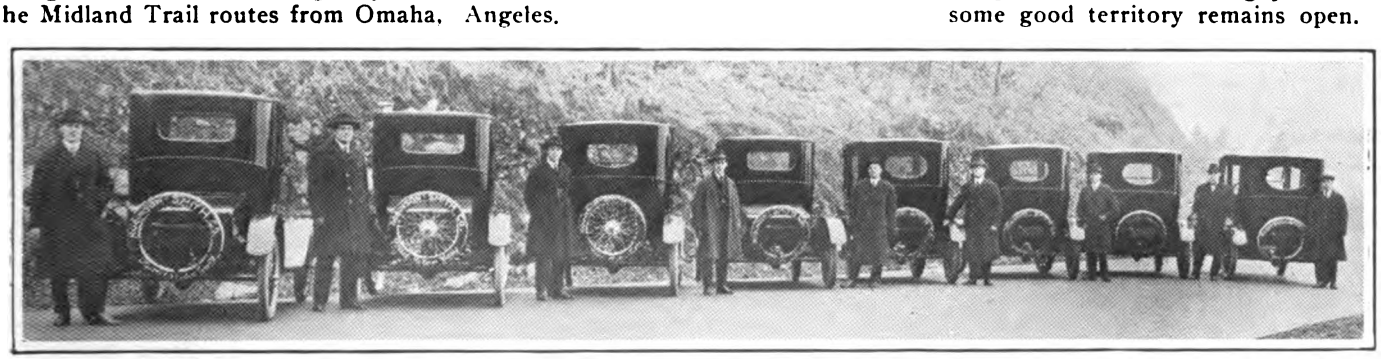
Two large dry kilns for seasoning the wood used in body and top building are contained in the plant. Manufacturing facilities are already so arranged that the addition of new machinery will result in a progressive system of car assembling, even to the final coat of body paint. The schedule of production of the Leach-Biltwell Co. is 1,000 cars the first year. M. A. Leach, formerly one of the most active and best known dealers in Los Angeles, heads the company as president.

Conlee to Represent Stanwood.

Western sales managership for the Stanwood Rubber Co., of New York City, has been taken by E. B. Conlee, of Los Angeles, Cal. He has a wide acquaintance, due to six years' experience in the wholesale tire business in Southern California, to wish him success.

The Stanwood line, Conlee announces, will be complete, including a full line of cord and fabric tires, red and gray tubes, together with a complete line of tire accessories.

Agencies are now being placed and some good territory remains open.



ALL THE SALESMEN OF ROBINSON-SMITH CO., PORTLAND, USE CLOSED CARS.

Class counts. Portland, Oregon, believes in it. The glimpse of Terwiliger Boulevard proves it. The closed Fords are those used by the salesmen of Robinson-Smith Co., authorized Ford dealer. From headquarters at Sixth and Madison Streets these gentlemen sally forth in their limousines, feeling classier, fitter for business, more symbolic of better transportation, than they otherwise would. From left to right in the picture the gentlemen are A. S. Robinson, A. B. Smith (proprietor), H. V. Robinson (sales manager), T. J. Armentrout, Paul Wicke, L. H. Kelty, Charlie Haugsten, C. A. Cook, S. C. Mitchell.

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ONWARD! IS WORD IN LOS ANGELES

More Agencies and Other Indications of Southern California's Progress Mark Recent Development.

Two new motor car and two motor truck agencies are the latest additions to the Los Angeles automobile field.

The Gates-Kelley Automotive Co., in new quarters at Pico St. and Grand Ave., announces that it will handle Paterson Six cars, in addition to the Californian car, Smith Form-A-Truck and Jumbo truck. Paterson open models have been received and closed types will follow soon, so that deliveries will be kept close to the "immediate" point.

Southern California distribution of the Anderson Six has been secured by Ed C. Engle and sales quarters are being erected for him on Flower St. near Tenth.

The Traffic truck line has been added to the Gary truck agency by the Gary South Coast Agency.

The twin-frame Apex truck, entirely new to the West, has been taken by the Kamp-Miller Motor Sales Co. for Southern California; they have quarters being built for them at Pico and Los Angeles Sts.

Harris M. Hanshue expects to locate the Apperson agency in his new building at Eleventh and Flower Sts. by middle February, by which time the period of painfully slow deliveries, he hopes, will be past and the Apperson line well represented on all models.

The National car agency, the Rutledge Motor Car Co., will be in its new home at 1140-42 S. Figueroa St. about Feb. 1.

The Pacific Motor Car Co., King Eight, has opened in large three-story quarters on S. Grand Ave., the former Studebaker quarters.

Roamer cars are due to arrive on the Coast in considerable numbers in the spring, believes the Wright Motor Car Co.

E. E. Evans recently traveled East to have his allotment of Paige cars increased for the third time this year.

After a wait prolonged since last summer the Standard Steel Automotive Corp. is at last in a position to assist its out-of-town dealers.

On the Cadillac car, Don Lee reports that every day for a year has seen deliveries behind orders, a continued shortage. At one time they were more than 300 cars behind orders on their books. However, a large allotment is promised for spring.

The Leach-Biltwell Motor Car Co., builders of the Leach Power-Plus Six, is now operating its factory on a 900 cars per year basis.

The firm name of Ruddle & Menillo, Fageol truck dealers, has been changed to H. J. Ruddle Co., the Menillo brothers withdrawing from the firm.

New individual models continue fairly plentiful in Los Angeles. Among them are the Paige Glenbrook, R & V-Knight, Standard Eight closed type, Paterson seven and five-passenger touring, Scripps-Booth coupe and sedan, Auburn Six and American Six.

Immediate deliveries are promised on the Elgin Six, American Six, Nelson, Jordan and Columbia sport model cars; in limited numbers on Cole Aero Eight, Davis and Auburn.

Among recent trade visitors in Los Angeles are O. H. Root and W. R. Vandervoort, heads of the Root & Vandervoort Engineering Co., builders of the R & V-Knight car; J. M. Noble, president of the General Service Co.; Elmer Apperson, of Apperson Brothers Automobile Co.; F. W. Springer, vice-president and general sales manager of the Hewitt Rubber Co.; and Samuel S. Corl, general representative of the Racine Rubber Co.

TO BE HAPPY, DON'T

Don't forget, in seeking new California automobile licenses, that last year's certificate serves as application for renewal.

Don't forget that unless legal owner's address is the one on old certificate, it must be written at upper left corner.

Don't omit noting, on old certificate, any change of your own and legal owner's address.

Don't forget—new certificates are obtainable in person at San Francisco, Fresno or Los Angeles; by mail (remit check, not currency, gold, silver or stamps) only from Sacramento.

Don't fail to forward separate check for each license—for each car. Blanket checks won't cover.

Don't fail to multiply the horsepower by 40 cents, to find what fee to forward for passenger car license.

Don't destroy the old plate when new one comes; then do; at least, don't turn in the old one.

Don't fail to get and fill application for duplicate certificate, if you have lost the old one; nor to pay 50 cents for the duplicate.

Don't forget the new plate must be on the car by March 1.

Don't expect operator's license forms to be filled for you by the department. It isn't being done.

Cook Delivers Bethlehem Despite Cold

B. F. Cook, territorial representative of the Spokane-Chandler Co., Spokane, "delivers the goods." He recently responded to a hurry call for a truck by driving one to the customer through heavy snow on Northern Idaho roads, with the temperature 20 to 30 below.

Elmer Apperson Resting on Coast.

Elmer Apperson, of Apperson Brothers' Automobile Co., and distinguished by being a pioneer who still is active in the business, is enjoying a rest in Los Angeles.

Bentel Business in New Hands.

The Bentel Shops in Los Angeles are now owned by a new corporation, the Reim-Thompson Co., headed by George F. Reim, for eleven years Cadillac dealer in Omaha and a pioneer in the industry, dating back to 1899, and having been connected also with the White and Packard. Associated with Mr. Reim is R. M. Thompson, vice-president and treasurer, who for years has been a district representative of the American Car Co., manufacturing street cars. He will give all his time to the new company and will have charge of sales.

Financial backing of the new concern is said to be unusually strong. The four-story Grand Avenue plant's facilities for fine body building will be greatly improved, and manned by specialists in refinishing, repainting and manufacture of special bodies. The special top business will be enlarged.

Takes R. & V.-Knight in North.

The R. & V.-Knight car, formerly the Moline-Knight, will be distributed in Northern California and in the states or Oregon, Washington and Nevada by J. E. Nottingham, of Detroit. San Francisco headquarters have been opened on Post St.

Distributing connections on the R. & V.-Knight now cover the entire Coast, the Southern California agency having been taken by W. B. Conditt, of Los Angeles, some time ago.

Motor License Melon Cut.

The California controller's statement of apportionments of motor vehicle department receipts for the latter half of 1919 shows the amount distributed to the State and counties totals $248,496; the largest county share to Los Angeles, $35,692; next largest to San Francisco, $12,133. The amount of license collections in a county governs its apportionment.

Show Building for Los Angeles?

Since Shrine Auditorium, Los Angeles' largest building of the kind, burned recently, there has been talk of replacing it with a huge structure fit to be used not only for great gatherings but for automobile shows.

Bemb Leaves Detroit for Rest.

Walter J. Bemb, of the Bemb-Robinson Co., Detroit distributor for the Hudson and Essex, will spend the remainder of the winter in California.

Levering Visits the East.

W. K. Levering, of Salt Lake City, distributor for the Marmon, has been in the East and recently visited Detroit.

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Boy Scout Movement Started.

Active co-operation of the Boy Scouts of America in good roads propaganda looms. The organization held a "roundup" at Berkeley, Cal., January 21 to 24 inclusive. Representatives from each of the eleven most western states attended. So did the national officers of the organization. Among the things done was enthusiastic adoption of a plan submitted by W. W. Watterson, banker of Bishop, Cal., and a leader in affairs in Eastern California, and which is expected to result in a national highway patrol movement by Boy Scouts. It will give them something to do which boys like to do. It will mean that they will work up interest in the public, personally and through printer's ink, in general highway development and in development of routes of national importance particularly.

At Bishop, the source of the idea—by courtesy of one W. G. Scott, author of a national highway bill and at present residing in Los Angeles—the first troop of the National Highway Patrol is to be organized. By its work the Roosevelt National Highway, with eastern termini at Montauk Point, L. I., and Washington, D. C., and running west from Lexington, Ky., on the Midland Trail, will be benefited. Through the national organ of the Boy Scouts, news of the movement will spread and, by rapid degrees it is expected, will cause similar activity everywhere.

Authorized Ford dealers in Portland, Oregon, have formed the Universal Car Co. to handle all deals in used Fords turned in on new car sales.

The six authorized dealers in Portland turn all their used Fords over to the new company, and send buyers of new cars, who have Fords to trade in, to the company, which appraises the old car and gives the owner a due slip on which he in turn receives cash credit from the dealer toward payment of the new car.

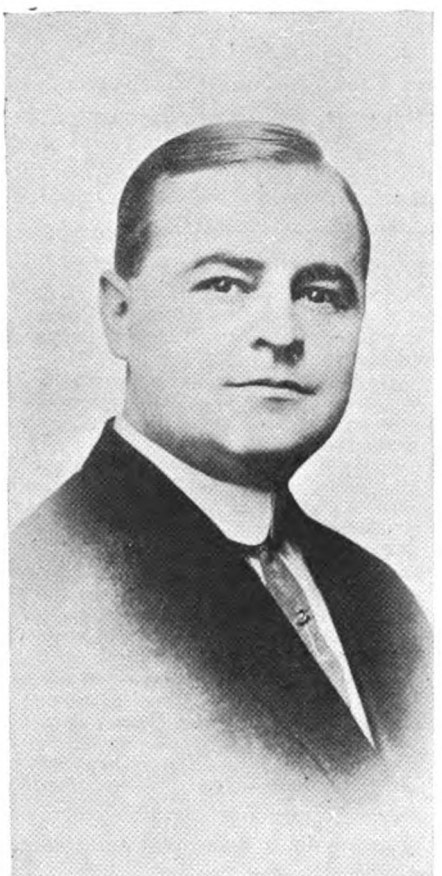
L. Y. Billingsley is manager of the exchange, for which a $30,000 two-story building, with shop, painting and upholstery equipment, is being erected.

Tunnel Would Ease Congestion.

Of great importance to all who motor in Southern California, in that portion of it called Los Angeles, is a much desired and much delayed tunnel through Bunker Hill at Second St. By some property holders who, perhaps rightly, believe the cost should not be loaded upon adjoining land, legal obstacles have been provided and, while it was supposed recently that the way was clear and a contract had been let, again the project is held up. It is badly needed as a link between all territory north and northwest, near and far, and points eastward and southward; not to mention city traffic, which is swelled by approximately 25,000 visiting motorists. There are links now, but they are insufficient, resulting in dangerous congestion in and at various points connecting the business district with outlying ones.

Albright Now Nelson's Coast Man.

Ernest Albright, who was assistant to Dan Gilkey, Pacific Coast manager for the Acason Motor Truck Co., recently resigned in Detroit and is now



ERNEST ALBRIGHT.
Pacific Coast Manager for the Nelson Motor Truck Co., Saginaw, Mich.

manager for the Nelson Motor Truck Co., Saginaw, Mich., on the Coast. He visited the "Motor West" office last week.

Denver Man's New Service Car.

E. H. Hoffman, of Denver, has invented a service car able to handle any automobile accident from a broken connection rod to a smashup. It is equipped with a strong traveling crane and a complete machine shop.

J. W. McAllister Dies.

J. W. McAllister, vice-president and half owner in the H. O. Harrison Co., of San Francisco, died recently in Los Angeles at the age of 69 years.

ROADS FIRST NEED IN SOUTH AMERICA

Automobile Use Developing in Some Parts of Latin Country Despite Lack of Good Highways.

The automobile is the stimulus to good roads in the United States; throughout the great area of Latin-America it is good roads, or at least highways travelable in fair comfort, that must come before motor vehicles are any sort of a factor in transportation. Along the west coast of South America gasoline at 60 cents a gallon and oil at $1.60 makes one hindrance, but the main difficulty is lack of good roads. Roads are good in spots, around the large cities. Elsewhere they are mere trails.

Mexico lies right at our door and the West Coast of Mexico, or rather its capacity for car buying, is interesting car makers and exporters more and more every day. Much optimism has been wasted on Mexico during the past eight years. Hopes of peace and prosperity have awakened repeatedly, only to die. But Mexico is fairly peaceful—for Mexico—now and United States consular reports indicate a steady growth of the automobile business in the land of Anahuac.

The general progress of western South America does not compare with that of Brazil and Argentina on the Atlantic side. Chile, however, was always an unusually enterprising country for a South American nation. Realization of what good roads mean is strongly shown in that country. The good highways built on the llanos, or plains, of Argentina have been taken up and continued by Chile and some of the roads built through the passes of the Chilean Andes are marvels equal to our own Rocky Mountain highways.

In Peru and Columbia bad roads have done less than in any other Latin-American country to hold back the coming of automobiles. Lima is the best place in Peru for car makers and exporters to be represented, according to the American consul there. "There are approximately 3000 automobiles in Peru, and of these 2000 are in Lima and its suburbs. The importation of automobiles is increasing rapidly, the majority of these being medium-priced and high-class cars."

Tejon Pass Detour Abolished.

The bothersome detour at the foot of Tejon Pass, 40 miles south of Bakersfield, Cal., on the Ridge Route to Los Angeles, has been abolished, but only half the width of the state highway may be used at present. The route is quite practicable, however.

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HUGE PLANS FOR YOSEMITE LOOM

Extraordinary Record of Past Year to be Far Outdone, Park Company Refinancing Indicates.

Foster Curry of Yosemite National Park, recently analyzed the approximate total of 16,000 guests who registered there up to a recent date. First of all, about 4,735 persons came from San Francisco, Oakland and nearby towns. The remainder of Northern and Central California sent 4,290, making a total of 9,025, compared with the total of 3,396 for Southern California.

The East was very well represented this year, every state sending its quota of visitors, which ranged from two persons for one state, New Hampshire, to 378 from Illinois. Pennsylvania was next, with 286; Ohio third, 212. Eastern visitors at Camp Curry numbered 3,220, more than double last year's record.

Two hundred and twenty-one foreigners were visitors at the Camp. England led with 37, Canada was next, 32, and Australia, 31. Holland and the Dutch possessions in the Pacific have become especially well represented. Some eighteen other countries sent visitors.

At a recent meeting of the Yosemite National Park Co. the receivership was dissolved and a reorganization report adopted. The new directorate is composed of San Francisco and Los Angeles men, and four more directors-at-large will be chosen. The company has at immediate disposal $1,000,000, and $500,000 more is to be raised in California, so that with over $900,000 already invested, $2,500,000 will have been expended by the end of 1922. The bulk of earnings is to be used for improvements. Among these will be the Grizzly Hotel; also a commodious camp at Tuolumne Meadows, in the High Sierras, the junction point of roads to principal places of interest. The present camps will be enlarged and a new one built in Hetch Hetchy Valley.

From about 10 miles out of Merced, Cal., toward Mariposa, construction on the new paved highway to Yosemite Valley is under way. This is the road for which a drive for popular subscriptions to $5 admission certificates to Yosemite, was carried on recently, to raise $1,000,000 of the required $1,700,000, the balance to come from state and federal funds. When completed, the 70-mile road will obviate many harassing grades and sharp turns and save much mileage. It will enable the journey from San Francisco to the park to be made in eight or nine hours, eliminating the present overnight stop.

The visit of nearly 50 persons of importance in various lines, including writers of note, to Yosemite Park in the last week of January, signifies wide propaganda for that national playground as an all-year resort, as well as unprecedented preparations for next summer's influx, which is expected to be tremendous. The visitors were taken on automobile rides over the floor of the valleys, and the plans of the Yosemite National Park Co. explained. Prominent men from all parts of California, including members of the state highway commission, were in the party.

Sees Palm Canyon, is Conquered.

Stephen T. Mather, director of national parks, recently visited that wonder of wonders, Palm Canyon, California. As a result a bill has been introduced to make it a national monument. The project began years ago. Mr. Mather's visit brought it to a head. It includes Palm Canyon and 1600 acres adjoining, comprising also Andreas and Murray canyons. Other wonders between the San Jacinto mountains and Salton Sea, thought to be worthy of similar attention, are Twenty-Nine Palms, One Thousand Palms, the Devil's Playground, Devil's Canyon, Deep Canyon, Fish Springs, Hidden Springs and others.

CALIFORNIA ROAD RULES.

Money, time and trouble will be saved if motorists' memories hold fast to these new California road rule pointers especially:

There is to be particular police activity in cases of illegal headlights, failure to give required hand and arm signal, and speeding.

Violators will be handed notice to appear before the nearest justice of the peace in the district within five days, and must sign a citation. Immediate trial can be demanded by violators.

A speed of 35 miles per hour is permitted only by day, and with at least 400 feet clear vision of highway and intersections ahead.

Whether owner, relative or friend drives, he must have an operator's license. License applications must be in Motor Vehicle Department office in Sacramento, San Francisco, Fresno or Los Angeles by midnight, March 1; penalty otherwise, 25 per cent of the fee.

Dixie Flyer in Northwest.

The Dixie Flyer, a six-cylinder car with the Herschell-Spillman engine, manufactured by the Kentucky Wagon Mfg. Co., of Louisville, Ky., is now represented in Washington by Frederick C. Wolfe, of Tacoma, and in King county, meaning Seattle, by James McCracken.

Northwest Transportation Stimulus.

Headquarters have been selected in the Corbett Building, Portland, Ore., by the Northwest Chamber of Transportation, which is seeking members and which F. A. Rasch, commissioner of public service, is president. Its purpose is to promote the interests of all forms of transportation; to study and propagate efficient freight handling methods; standardize and unify automotive transportation costs accounting; maintain current shipping information; promote building and extension of a unified highway system for military and commercial needs; to work for standard highway markings and travel directions, etc.

Canada May Use Our Road Rule.

The flow of American automobilists into British Columbia will increase if, as contemplated, the left-hand rule of the road is dropped and the American driving rule adopted. This is probable as the result of Maner Shelor, of the Automobile Club of Western Washington, and others having visited Canadian officials. Another nearly-promised boon is better ferry facilities to Vancouver Island. Some motorists desiring to spend vacations there have been held up as long as ten days.

How Present-Day Fruit Tramps Tramp

Sixteen "fruit tramps" entered Redlands, Cal., to work. They didn't tramp in, as of yore. They didn't seek homes to live in. They drove in, in their automobiles, which are their homes. They picked out a good place to camp. Their machines have sleeping quarters, small kitchenette, and stoves sheltered from wind and weather in a cleverly conceived compartment that buckles up on the side of the car. They carry a small lean-to tent, to keep supplies in while camping.

Camp Ground for Lake Tahoe.

Two miles of Lake Tahoe (city), Cal., on the west shore of the lake, and directly on the state highway, there will be a public camping ground with boating and bathing piers, free sites with rustic tables and benches, water supply, children's playground on the shore, and the entire place fenced to keep out roaming stock. The land donated by former Congressman William Kent of Kentfield, already has been cleared of underbrush.

Davis Six in Oregon.

Coincidentally with removing into new and larger quarters, the J. H. Graham Motor Car Co., of Portland, Ore., distributor for the Case and Scripps-Booth, has taken the Davis Six for the Oregon territory.

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HOW WILL GLIDDEN TOUR REACH COAST?

Question is, Will Technical Split of Years Ago on Rules Hinder Use of the Most Scenic Route?

Will the Glidden tourists, traveling from the Atlantic in September, reach the Pacific at San Francisco by keeping to the right from Ely, Nev., and crossing the Sierras via the northern route? Or will they turn left at Ely, travel southwest through Tonopah, in rolling country, on what is said to be one of the finest natural roads in the world, and reach San Francisco via Los Angeles and the beauteous coast route? Will a squabble over racing rules, which occurred years ago, between the contest committees of the Automobile Club of Southern California and the American Automobile Association, be permitted to be the deciding factor, as to which way the great semi-social, commercially highly important tour shall turn, when it reaches Ely, to reach its San Francisco terminus?

These questions are being asked—not in San Francisco, which need not care so long as it is the terminus, but very much in Los Angeles, where Ralph Hamlin, as president of the dealers' body, is preparing to put it up to the Glidden tour authorities with all possible emphasis.

Aside from the point that an old-time committee squabble over racing rules should not have anything to do with the tour, which is not a race, the argument is to be put forth that though the northern way over the mountains is beautiful, by the other way, as one emerges from Westgard Pass, there bursts upon the vision the vast Owens River Valley plain, and, beyond, the lofty, puzzling mystic, snow-capped heights of the Sierras, visible to the right and left for nearly a hundred miles—a strangely fascinating, never-to-be-forgotten first impression of California.

BEWARE OF UNAUTHORIZED SUBSCRIPTION REPRESENTATIVES.

The Circulation Department of "Motor West" has been experiencing trouble lately due to the work of unauthorized subscription men, especially in Southern California and Arizona.

Two of these men, named Jacobson and Kidder, who once were on the list of official representatives, were refused credentials and supplies owing to their irregular practices. They then had subscription blanks printed, in San Diego it is thought, and started eastward through the Imperial Valley and Arizona, taking subscriptions in large numbers, and making all sorts of impossible promises regarding premiums.

Motorists in every section of "Motor West" territory should refuse to subscribe unless the agent can show properly-signed "live" credentials, and is supplied with the proper blanks, etc. Below are shown reproductions of the counterfeit and official subscription blanks for purposes of comparison. Unless the agent is supplied with those shown at the right, refuse to deal with him, and wire at once to "Motor West" office, stating the facts.

The official subscription representatives of "Motor West" at this time are: A. B. Fox, Washington and Oregon; Joseph Isaacs and Harry Troister, Sacramento; W. T. McConnell, Fresno; D. L. Plume, San Francisco; J. C. Brewer, Nevada.

$2.00 a Year

Motor West

Motor West Publishing Co., Inc.

Los Angeles, San Francisco, Portland, Seattle

911 Marsh-Strong Bldg.

Los Angeles, Calif.

Date .....

Name .....

Post Office .....

Ask the Agent to show his Credentials

Special Offer .....

Paid $ .....

Agent's Name .....

ABOVE IS THE "PHONEY" BLANK. TO THE RIGHT IS THE REGULAR MOTOR WEST BLANK, PROPERLY NUMBERED.

PUBLISHED SEMI-MONTHLY $2.00 PER YEAR

Motor West

THE AUTHENTIC AUTHORITY OF THE PACIFIC COAST

Motor West Publishing Co., Inc.

911-912 MARSH-STRONG BUILDING

Los Angeles, _____ 19____

Name _____

Street _____

City _____

Business _____

NEW RENEWAL

Drive _____ Car

Ask the Agent to Show His Credentials

For SUBSCRIPTION to

MOTOR WEST for _____ Months

Paid $_____

Agent's Name _____

7999

"Manifold." Made by Pacific Coast Sales Book Co., Los Angeles

Seattle Club Extends Service.

The Automobile Club of Western Washington has arranged for touring bureaus in Bellingham, Mount Vernon, Everett, Olympia, Chehalis, Wenatchee, Ellensburg and Yakima, manned by employes from Seattle headquarters. Heretofore its service in these cities has been in hotels and commercial clubs. Also, two road car crews will report on road conditions daily to Seattle, put up detour and other guide signs, establish official garages and hotels and solicit memberships.

The dues have been $6 a year, plus $1.25 for radiator emblem, the latter fee returnable on return of emblem. The dues will be $10 plus $1. Dues in other cities, ascertained by the club, are: Portland, $12; Spokane, $12; San Francisco, $12 and $5 initiation; Los Angeles, $12 and $5 initiation; Denver, $15; Salt Lake City, $10; Minneapolis, $15 and $10 initiation; Kansas City, $12; Chicago, $10 and $10 initiation; Detroit, $10; Cleveland, $12; Philadelphia, $15; Baltimore, $12.

Los Angeles Will Hold a Show.

On January 28 the directors of the Los Angeles Motor Car Dealers' Association decided, by a very close vote, to hold a show this year. Location and date will be decided after investigation by a committee. The directors practically agreed that late April or late May would be the most suitable time, in view of all the preparatory work which will be necessary. Holding a tent show was found impracticable on account of the eremendous expense involved.

Spokane Show Hits Bullseye.

The automotive show in Spokane January 21-24, was eminently successful. Dealers were well satisfied with the interest manifested and predict a record breaking season of sales. More than 300 cars were in line for the opening parade. Practically all were new deliveries from the factories. A Packard with a record of 350,000 miles, and trucks loaded with logs, were features. At the annual banquet 700 persons were entertained in the Davenport hotel.

Sands Takes Studebaker.

The newly formed Sands Motor Car Co., of Seattle, representing the taking over by a separate firm of the Studebaker car agency, formerly handled by Waterhouse-Sands, now controls Seattle and King, Kitsap and San Juan counties as sales territory. The firm has moved to new quarters at 1525 Eleventh Ave. P. E. Sands, manager, has sold Studebakers in Seattle for eleven years.

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Brrh! Yet Chicago Show Busy

Cold Fails to Feaze Those Attending the Great Annual Exposition and Conclave of the Middle West.

(By F. Ed Spooner.)

JOHN N. WILLYS
Chairman of the Passenger Show Committee.

CHICAGO, Jan. 27.—Chicago is having—yes, enjoying—an eight-day week, with twenty-four hours, mostly wakeful hours, in each one of the days; with the climatic temperature low, but the business and social temperature up over 100.

The National Automobile and Motor Truck Shows are on; started last Saturday; will end next Saturday; no shows last Sunday of course, but with the ebbless flow of intercourse nevertheless in full swing, and with hundreds of trade men, from far and near, in attendance: with the Pacific Coast fully represented.

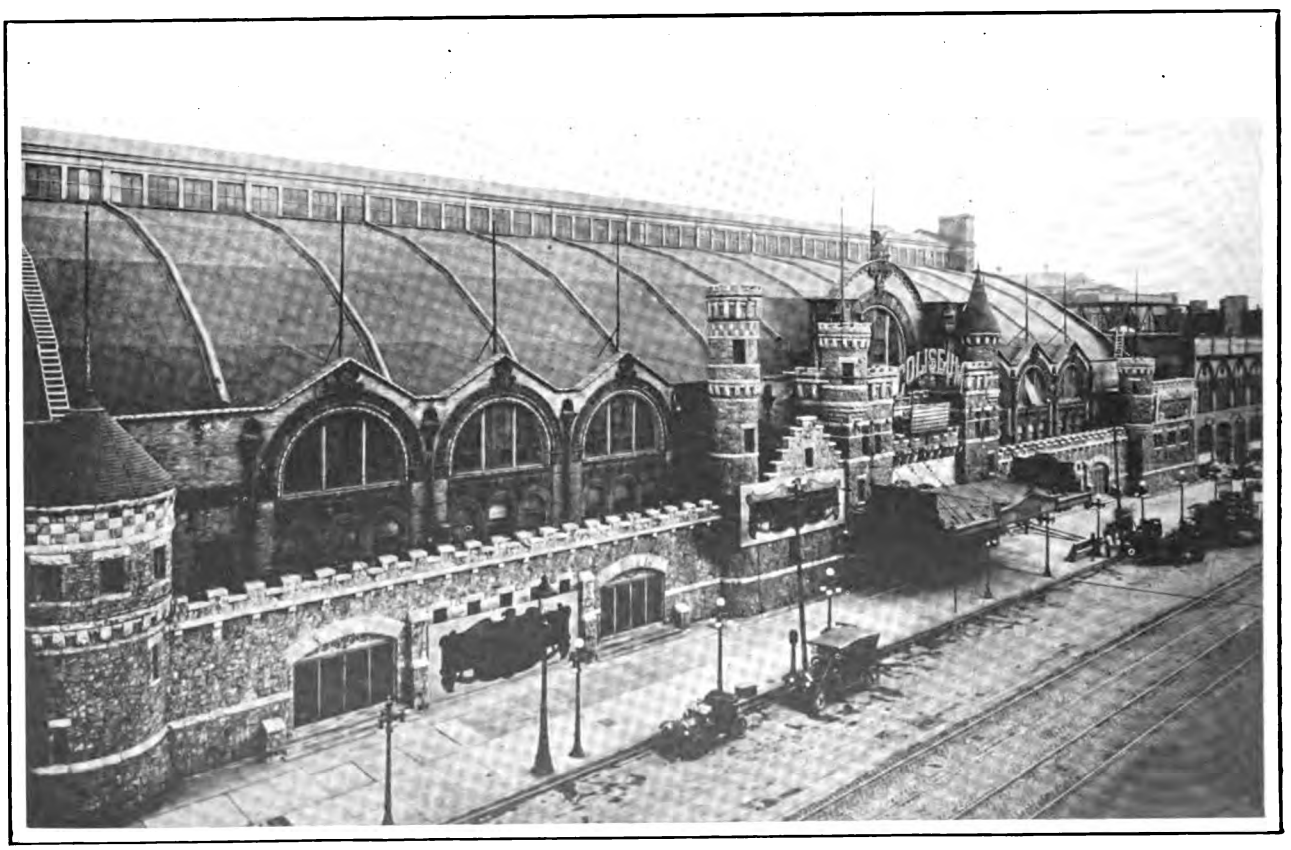
There are two things about this year's show as a whole that give it truly Western distinctiveness—the Los Angeles Leach Power-Plus Six is on exhibition, and the decorative motive is based on the art of the Indians of the Far West—the Hopi, Navajo and Apache tribes of New Mexico and Arizona. A word about this. Many years ago, C. T. Tietzel's father worked with George Dorsey, former curator of the famous Field Museum here, and one of his hobbies was Indian pottery, blankets and sketches. He left a magnificent collection of these to his son, C. J., and for months, at Evergreen, Ill., the son has been working on acres of canvas for this present exhibition—as he has done, in the same place, for previous ones.

M. L. PULCHER
Chairman of the Motor Truck Show Committee.

The Leach is the one really new automobile here which was not exhibited at the New York show. Its individuality is therefore made more pronounced, its details given more attention—such as its luxurious top, with patented roller curtains; its richly finished body and other points.

The new Saxon Four, high grade, small powerful, easy riding, is another winner among the dealers—for this is much more a trade men's show than the one in New York.

Another is Harry Stutz' high-speed production, the



CHICAGO'S COLISEUM. HOUSING PASSENGER CAR EXHIBITS OF THE NATIONAL AUTOMOBILE SHOW.

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H. C. S., with four-cylinder Weidley valve-in-head motor made to Stutz' design. It will be represented on the Pacific Coast soon.

Refinements characterize the returned Stevens-Duryea, manufacture of which was stopped during the war.

From the Nash factory in Milwaukee came a four, a compact, economical and attractive companion to the well-known six.

Altogether, 88 different makes of automobiles are shown, comprising several hundred cars. Among the makes exhibited outside of the Coliseum is the new Lafayette Eight, of luxurious finish and said to meet all requirements as to speed, etc. The new Lincoln is not on view.

The general tendency to build a large proportion of closed models—as large as 50 per cent of the total 1920 production, some estimate—has struck two snags which monopolize much attention at the show. They are of quite as much interest to the Pacific Coast as to other sections. One is the great shortage of panel glass; the other a great shortage of bodies. Certain manufacturers of magnitude have protected themselves by buying glass and body plants outright. Others are arranging to import bodies from abroad, finding they can get them here in three months' time, which is better than they can do on this side. Most automobile makers frankly are stumped by the situation and suddenly realize they do not know where to turn for relief. As to bodies, they apparently erred in suiting their immediate convenience in getting bodies from plants specializing on that work. These plants have not kept pace with automobile makers' needs; and there's the rub.

The Motor Truck Show.

At some distance from the Coliseum, but easily reached, the Motor Truck Show is housed in the huge International Ampitheater, at 42nd and Halsted Sts. Here, the difficulty of decorating on a large scale has been overcome by Artist Tietzel. The boxes and reserved seats surrounding the tanbark arena (the place is used for horse shows, etc.) are completely hidden. A platform was erected to a level with the four or fifth row of seats, which form a mezzanine floor, for a portion of the accessories. Curtains hide the other seats, also covering the east and west ends, where there are balconies with tiers of seats.

The motor trucks are installed in the arena, the wings and a part of the runways. The accessories are on the mezzanine floor, the space under the box seats and in a section of the runways.

On the second floor of the north wing is the hall in which are being held the daily conferences on motor transportation problems.

The Highway Transport Conference.

An important feature of the Motor Truck Show in Chicago, as was the case in New York, is the sessions of the Highway Transport Conference. Among the subjects discussed are:

Afternoons.

Monday, January 26—Merchandising Motor Trucks.
Tuesday, January 27—Selling Motor Truck Transportation.
Wednesday, January 28—Selling on the Firing Line.
Thursday, January 29—Promotion of Highways and Traffic.
Friday, January 30—In the Matter of Service.

Evenings.

Monday, January 26—Motor Truck and Railroad Freighting.
Tuesday, January 27—The Farmer's Haulage Problems.
Wednesday, January 28—Rural Motor Express.
Thursday, January 29—Highways and Motor Transport.
Friday, January 30—Increasing Motor Haulage Efficiency.
Saturday, January 31—Aids to Motor Truck Efficiency.

The New M. and A. M. A. Officers

With one exception, 1919 officers were re-elected at the recent New York meeting of the Motor and Accessory Manufacturers' Association. Thomas J. Wetzel, retiring director, was succeeded as secretary and assistant treasurer by G. Brewer Griffin, manager of the automobile equipment department of Westinghouse. Changes were made in committees, but the chairman remain. The 1920 officers are: President, C. E. Thompson, president Steel Products Co., Cleveland; first vice-president, E. H. Broadwell, vice-president Fisk Rubber Co., Chicopee Falls; second vice-president, Christian Girl, president Standard Parts Co., Cleveland; third vice-president, W. O. Rutherford, vice-president the B. F. Goodrich Co., Akron; treasurer, L. M. Wainwright, president Diamond Chain Co., Indianapolis. In addition to Mr. Griffin, two other new directors were elected: E. E. Allyne, president Aluminum Castings Co., Cleveland; and J. M. McComb, assistant manager Crucible Steel Co. of America, Pittsburg. W. O. Rutherford, vice-president B. F. Goodrich Co., Akron, was re-elected.

President Thompson's annual report points backward with pride and forward with confident expectation of "a big year, a vital year, a year of constructive progress, a year of growth in every way." He makes it clear the relation of the association to the automobile builder is that of a big brother; that without its help the present enormous production would be impossible.

The membership is stated as 369. The new financing plan, based on estimated average income per member, it is believed will bring in $70,000 to $80,000, approximately covering expenses. A membership drive by General Manager Heminway is about to be launched. Field Secretary Alexander W. Barber will combine efforts on this with credit activities.

The report gives high praise to the work of the credit department; the finance committee; the editorial department, in charge of the Digest, the year book, the publicity and educational work; the traffic department; the results of team work with other associations, in matters of standardization, etc. Special tribute is given S. S. Meyers, who for ten years, in co-operation with General Manager Heminway, has skillfully shaped the legal destinies of the association.

Calendar of Coming Events

Feb. 9-14—Salt Lake City, Utah, Automobile Show, Bonneville Park; W. D. Rishel, Manager.
Feb. 9-14—Kansas City, Mo., Tractor Show.
Feb. 21-28—Fourth Annual Pacific Automobile Show, Auditorium, San Francisco, Cal.; G. A. Wahlgreen, Mgr.
Feb. 21—New Los Angeles Speedway, Opening Event.
Feb. 23-28—Portland, Ore., Automobile Show, Ice Palace; M. O. Wilkins, Mgr.
Feb. 23-28—Portland, Ore., Truck Show, Armory; M. O. Wilkins, Mgr.
March 2-6—Denver, Colo., Car and Truck Show.
March 15-21—Seattle, Wash., Automobile Show, Pioneer Auto Garage; W. J. Coyle, Mgr.
March 15-22—Great Falls, Mont., Automobile Show.
March 30-April 4—First Annual Pacific Coast Automotive Equipment Exposition, Auditorium, San Francisco, Cal.
April 21-28—First Pacific Coast Aeronautical Show, Auditorium, San Francisco, Cal.; Auspices Pacific Aero Club.
April—Los Angeles Automobile Show.

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Preparing for Fourth Annual Pacific Motor Show

Will Bear Out the Contention of Promoters That It Should Really Be the Third National Automotive Exhibition--Every Inch of Available Space Disposed of—Decorative Scheme Will Be Marvelous—100,000 Attendance Expected

(By WILLIAM L. HUGHSON, President Automobile Dealers' Association of San Francisco.)

REPRESENTING every feature of the motor car industry, the Fourth Annual Pacific Automobile Show will be thrown open to the public at the Exposition Auditorium in San Francisco on February 21, with a dazzling array of exhibits and novel attractions.

The motor car exposition, which is to continue for one week, will be one of the three great national automobile shows—equalling in importance the New York and Chicage exhibitions. On display will be fifty-four distinct lines of automobiles and fifty-five makes of trucks and tractors, in addition to the feature exhibits of all the large Eastern factories.

Under the direction of G. A. Wahlgreen, the show manager, final details of the program for the first great post-war "get-together" of Western motor enthusiasts and dealers are rapidly nearing completion. It is estimated that more than 100,000 visitors will attend this year's show.

Every available bit of display space in the huge auditorium has been reserved by dealers and distributors, whose exhibits will cover 108,000 square feet. This space is to be shared by forty-four individual distributors of automobiles, forty-two exhibitors of trucks and tractors and sixty dealers in accessories and appliances.

WILLIAM L. HUGHSON
President Motor Car Dealers' Association of San Francisco.

The show is to be produced on a lavish scale, the decorations costing $50,000. From plans drawn by Ward & Blohme, San Francisco architects, the interior of the Auditorium will be transformed into a colorful scene of great beauty and artistry, especially adapted as a background for the hundreds of beautiful cars and other exhibits.

Of Grecian design, the decorative scheme will consist of a circular peristyle of imitation fluted white columns and entablature, 150 feet in diameter and 60 feet in height. Over this will be superimposed an awning, 30 feet in width, supported on bronze trusses encircling the colonnade, through which will come the effect of sunshine. The open circular space not covered by the awning will represent the sunny blue sky. Through the spaces between the colonnade will be the view of distant hills and vales, the whole giving the effect of a roofless Grecian temple set within a valley.

A hedge of trees interrupted at intervals with eight large fountains with water playing and illuminated with colored electric lights will border the base of the peristyle. Handsome light standards will furnish the direct illumination for the display upon the floor, while invisible lights will illuminate the structure proper.

The decorations are nearing completion under the supervision of G. A. Wahlgreen, being assisted by a corps of ten artists.

Greater than ever before, this year's show will introduce the last word in motor car construction with all the elegance of post-war design. Special interest attaches to the feature exhibit sent here by the Eastern manufacturers from the Chicago show, which closed January 31. The huge show house is to be one great industrial carnival, with San Francisco in a playful mood thrown in.

The fourth annual effort of Western motor car dealers and distributors to please the fancy of motor-wise of the Pacific Coast and the thousands of visitors who are attracted yearly from neighboring States and the East is to dwarf all previous events of a similar nature ever held on the Pacific Coast. In display space alone the 1920 show is to exceed last year's by 35,000 square feet. While the 1919 exhibition drew a crowd of 80,000, the coming show is expected to go well over the 100,000 mark.

Comparative statistics of the 1919 and 1920 shows, as prepared by Manager G. A. Wahlgreen, are as follows:

1919 Show.

Space: Passenger cars, 45,00 square feet; trucks and tractors, 20,000 square feet; accessories, 8,000 square feet; total, 73,000 square feet.

Number of passenger car exhibitors, 35; number of truck and tractor exhibitors, 25; number of accessory exhibitors, 48.

Number of passenger car makes displayed, 41; number of trucks and tractors, 35; number of accessory lines, 48.

Attendance, 80.000.

1920 Show.

Space: Passenger cars, 60,000 square feet; trucks and tractors, 33,000 square feet; accessories and appliances, 15,000 square feet.

Number of passenger car exhibitors, 45; number of truck and tractor exhibitors, 42; number of accessory exhibitors, 60.

Number of passenger car makes to be displayed, 54; number oftruck and tractor makes, 42; number of accessory lines, not computed.

Estimated attendance, 100,000.

The entertainment program is to be the most elaborate in the history of events of this kind. Music will be furnished by the famous 67th Coast Artillery Band, which recently returned from overseas, and by the world-renounced Art Hickman "jazz" orchestra which scored such a hit in its New York engagement several months ago.

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As another feature, Mlle. D'Aubigny, the Parisian prima donna, will appear in song recitals. The Leo Feist Trio also are to be included in the musical program.

A miniature automobile plant in full operation will be among the educational features of the show. All branches of the modern factory will be represented with a full compliment of workmen. Machines will be turned out before the eyes of the spectators.

Another item of great instructive value will be the daily lectures by Lieutenant Sylvester, head of the San Francisco auto traffic squad, and his staff of assistants. Motorists are to be schooled in "safety first" lessons.

In anticipation of one of the largest crowds since the exposition year, the managements of the leading San Francisco hotels are taking steps to provide accommodations for the thousands of visitors.

The Chicago national show exercised its usual lure, leaving many Coast automobile concerns temporarily managerless. Among San Francisco officials now in the East are Earle C. Anthony, P. H. Greer, Al G. Faulkner, Reeves Gartzmann, of Hawley, King & Co., C. L. Fisher, A. R. Mires, of Charles H. Kaar Co., and George Pearson, Jr., Chalmers factory representative, accompanied by ten Lou H. Rose dealers.

A. H. Coates and R. W. Gould, of A. H. Coates Co., sales representatives, attended the show, besides visiting their factories to rush delivery of materials to meet the Coast demand.

Glimpses at Conditions in Germany

Germany already is underselling the British, in their own field, in many lines. What is happening as to automobiles is yet a bit hazy. In fact, how the Germans are managing to do what they are doing, in view of shortage of many things, is a mystery only partly explained by their inborn capacity for and willingness to work, thus largely solving the labor problem. The Mercedes, Benz, Adler, Opel and other leading automobile factories were greatly expanded during the war, and their equipment tremendously augmented by pillage of Belgian factories. Lack of tires, it is said, is being met by smuggling many truck loads through Alsace-Lorraine, with connivance of petty officials, on the pretext that they are for the armies in occupied territory. Most of the tire dealers are said to be concentrated at Cologne—which heightens suspicion of smuggling.

Three Monroe Cars Entered at Indianapolis

The entry by William Small Co., automobile manufacturers of the Hoosier capital, of three Monroe cars in the eighth annual International 500-mile Sweepstakes on the Indianapolis Motor Speedway, Monday, May 31, indicates that the foreigners are not to have easy pickings this year.

The Monroe team is led by Louis Chevrolet, veteran driver and master designer of racing cars, under whose supervision the new Hoosier speed creations are rapidly being rushed to completion. The William Small Co., which manufactures the Monroe cars, has given Chevrolet carte blanche in his endeavors to shatter the unbroken string of foreign car victories that has accumulated since 1912.

Pacific Show Number February 15th.

Trade Awakened to Trademark Piracy

Never too late to mend, though better to have sewn right in the beginning, is all the comfort a number of automobile manufacturers are likely to get from efforts they may make, possibly through the State Department, to contest reported piracy of their trademarks abroad. A gentleman of business recently visited New York, got much information, returned to Portugal, and quite possibly has registered certain trademarks on which, says David Beecroft, gentlemen of his ilk are likely to reap fortunes. Such registration has been practiced in other lines, especially in South America, where United States manufacturers, desiring to do business have been confronted by "owners" of their trademarks and calmly asked to divide or retire.

Recent reports reaching New York, of such activity abroad, have reminded the trade of frequent warnings by General Manager Reeves of the N. A. A. C., and they are now taking heed and such steps as they hope will protect their rights abroad.

The Glidden Tour and Motor Trucks

Contest Chairman Kennerdell, of the American Automobile Association, says there will not be a motor truck division in next September's Glidden tour "from the Bay State to the Golden Gate," as it would interfere with plans for the first national motor truck reliability run which is to start from Omaha in June. However, it is intended to let makers of pneumatic tires enter trucks so fitted, so that they can compile comparisons with the army motor truck caravan which crossed the country and on which solid tire figures were obtained. Control of the Omaha Bee has been purchased from Victor Rosewater, who undertook to finance the national motor truck run. Presumably this will not hinder the enterprise.

N. A. C. C. Statistics on 1919 Production

According to the National Automobile Chamber of Commerce, 1,891,989 motor vehicles were produced in the United States in 1919, the wholesale valuation being $1,807,594,580—record. Passenger cars produced totaled 1,586,787, exceeding 1918, but not record, compared with 1,740,792 in 1917—a slight decrease, due of course to the war. Motor truck production reached 305,142, compared with 227,500 in 1918. The valuation of motor vehicles exported totaled $110,000,000 in 1919.

The year's valuation record, when wholesale value of bodies and accessories is included, places the industry on approximately a $2,000,000,000 basis, with prospects that 1920 will put it second to steel itself.

As to buyers, registrations show greatest increase in rural districts, with Tennessee, Alabama, Louisiana and Georgia leading. In total registrations New York State led, with 570,000, or one for every 18 persons. Ohio was second, with 511,000. Nebraska and Iowa tied for first place as to the percentage of automobiles to population—one for every six persons.

United States Rubber to Help Lincoln Highway

President C. B. Seger, of the United States Rubber Co., announces the company has appropriated $130,000 for the construction of a model stretch on the Lincoln Highway. It is said this probably will be in Ohio, instead of at the halfway point in Nebraska, as at first reported.

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Speedway Practice, Feb. 5th

Beverly Hills Oval Nearly Completed—Big Entry List Expected—Ticket Sale Started—Will Barney Drive?

LOS ANGELES Speedway, the 1¼-mile board track at Beverly Hills, nears completion. Practice will begin February 5. An attendance of 100,000 is expected for the opening meet on Saturday, February 21, with a $25,000 purse for the 250-mile event—the largest purse ever offered west of Chicago.

By means of this meet, and the election of Manager A. M. Young to the board of governors of the American Automobile Association, Los Angeles enters the "big league."

That it will be a relatively safe track is predicted and fervently hoped. That it will rank very high as to speed is already certain—the curves, with a maximum angle of 40 degrees, cannot be traveled at less than 80 miles per hour. A 100-miles-per-hour jog is deemed by engineers to be safest. An automobile of ordinary weight striking the curves at this gait exerts a force against the surface equal to a weight of seven tons.

Visualize it, if you can. Know also that the board track produces a thundering rumble that, with the gargantuan motor explosions, is enough to stir the innards of a wooden Indian. These things, and the marvelous scenic setting, the seven miles of seats (each stand is 800 feet long), the five miles of parking space in the infield—all this will make an indelible impression upon the Eastern journalists, advertising men and others who are coming; and the impression will be reflected in printed descriptions that will go around the world. With the passing of Sheepshead Bay and the Chicago Speedway, Los Angeles' only competitor worth noting will be the brick speedway at Indianapolis.

In the lineup on February 21 will be the very best that America has in the way of drivers and cars. For instance, there will be Tommy Milton and his 8-cylinder Duesenberg. This combination has been the sensation of the year in the East.

At Sheepshead last November he traveled 113 miles in 60 minutes, a distance outstripping the best performance of any other car in the world. In this same car Milton won the checkered flag in the two Uniontown races, Sheepshead and Elgin. With Jimmy Murphy, his teammate, Milton is now at Daytona Beach, Florida, shooting at the sensational records created by Ralph DePalma in his Packard there last spring.

Milton and Murphy will ship their Duesenbergs direct from Florida to Los Angeles by express. Milton already is a favorite in Southern California because of his fearless driving. He is one of the most daring drivers that ever gripped a wheel. Some of his driving around Los Angeles is still talked of as the most sensational ever seen.

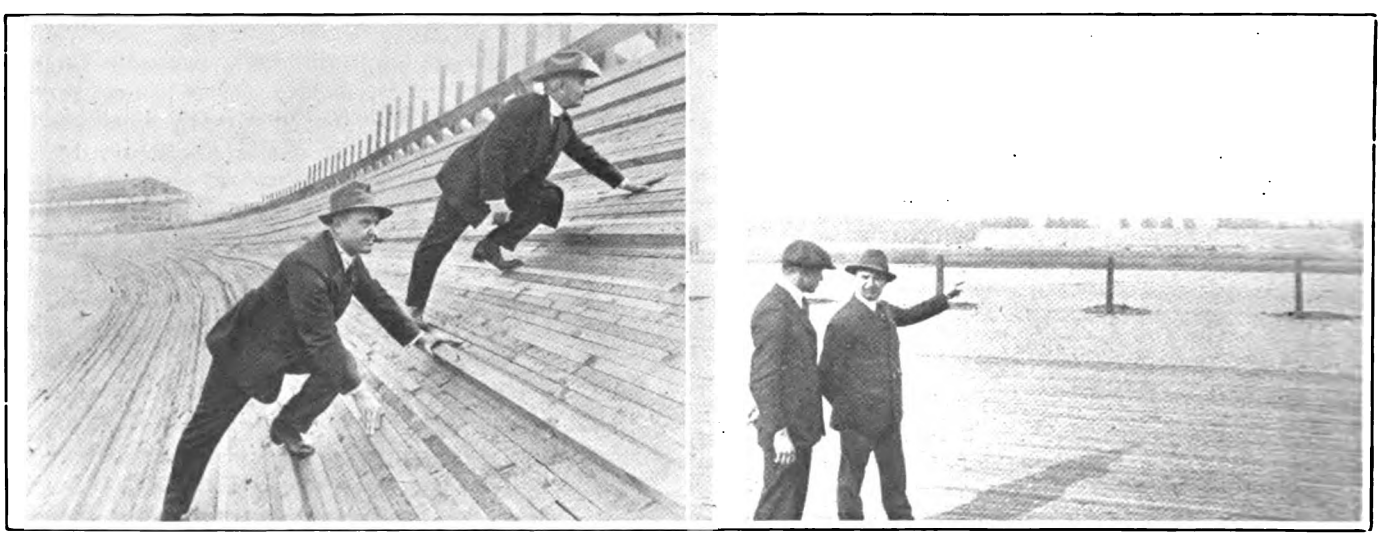
Murphy has been identified with racing for years. He has ridden with all of the best. Now he is a pilot in his own right, and a star. His long experience in the mechanic's seat qualified him to jump right into the front ranks of the drivers when he "graduated." Murphy's Duesenberg is another of the sensationally fast kind, and those speed fans who like to wager a bit are establishing the Duesenberg team as favorites even before seeing the new cars.

Roscoe Sarles has made the boast that he will qualify at more than 112 miles per hour in his Frontenac. Sarles is not much given to empty talk, so when he says 112 miles per hour it will be that. His machine is fast enough to do it, and Sarles, who has watched the construction of the track, says that it will be the fastest in the world.

There will be a whole flock of Frontenacs. Kenneth V. Goodson has entered his, as has Joe Thomas. Unquestionably the fourth Frontenac will be driven by Joseph Boyer, the Detroit multi-millionaire who is hailed as "the second Bob Burman." A pupil of the late Burman, Boyer has much of the dash and daring that marked that masterful driver.

Ira Vail has completely rebuilt his Philbrin Special, following his sensational accident of Thanksgiving Day. It is equipped with the Philbrin ignition system, which makes the Duesenberg motor a revelation in speed. Vail's nerve is unshaken by his hard luck in the Turkey Day event and he is regarded as one of the money-getters.

Reeve Dutton, whose Stutz tangled with the Philbrin Special in the Vail accident, is among the entrants. Dutton's may not have the sensational speed of some of the



OLDFIELD IS TAKING SUCH AN INTEREST IN THE NEW TRACK THAT THERE ARE RUMORS THAT HE IS CONTEMPLATING ANOTHER FAREWELL APPEARANCE. AT ANY RATE TWO CARS ARE BEING PREPARED IN HIS SHOP.

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newer cars, but he has the faculty of holding together, and 250 miles at that speed is a long way to go.

There is much interest in the entry of R. C. Durant, known to the racing world as Cliff Durant. He probably is the richest man connected with racing today. He not only will compete as a driver, but his financial assistance was one of the factors that made the new speedway possible.

There's a fast Hudson in the line-up. It belongs to Toland Nicholson, son of a Pittsburgh millionaire. Nicholson is one of the Eastern drivers in whom much interest centers.

Eddie O'Donnell, of Duesenberg fame, is on the ground looking for a car that has enough of the fast stuff to put him into the big money. John De Palma, brother of the famous Ralph, also is searching the speed camps for a suitable mount. Barney Oldfield, who retired from driving to become a tire magnate, will not drive, even for his thousands of friends, but there is some feverish preparation in the Oldfield garage, where two racing cars are being gotten ready. One is motored with the new 183 cubic inch type. The other is a 300 cubic inch motor. Waldo Stein is regarded as a likely driver for one of the cars. Oldfield is here.

All the drivers who intend to be contenders in the 1920 championship of the A.A.A. will be in Los Angeles for the opening of the season on the new speedway. So many points will be awarded owing to the importance of the race that no drivers could afford to stay away and have that handicap to overcome later.

The seat sale opening has been marked by an amazing rush for box seats. It is expected that in addition to drawing the largest crowd that ever attended a sporting event in California that this will be one of the big society functions, rivaling the old-time horse show.

Questions as to whether automobile racing is on the wane, and whether the new Los Angeles speedway will be substantially approved by the public and profitable to the trade, as well as to racers, are easily answered. The sport decidedly is not waning. As the new course should be safer, speedier, more thrilling than a road course, particularly will there be no wane of interest due to its advent; quite the contrary. Markedly increased sales follow all races, for various reasons; and of interest among racing men there never will be any lack.

One may safely look to Europe for confirmation of the belief that there is no immediate prospect of automobile racing dying out. The French Automobile Club has decided there will not be a Grand Prix this year, but the reason is that manufacturers, overwhelmed with orders since the war, cannot give the matter attention this year. Their interest is strong, however. There will be a great event in Marseilles, and general belief is the French makers, though busy, have speed creations under way for use next year.

California Highway Commission News

There is real anxiety as to the prospect of selling the $12,000,000 of the $40,000,000 California highway bond issue late in February. They bear only 4½ per cent. If they sell, the year's program goes on. If not——?

Request of Fresno county citizens, that the important state highway from Tracy to Alameda county line be rebuilt soon, brought a promise of all possible speed from the commission. The promise is dependent upon the sale of the state bonds.

The contractor on an important section, Ione to Jackson, on the Amador county lateral, says he bid too low, and——. The commission regretfully replies it is sorry, but——. Amador county is on its toes for completion of the lateral.

San Bernardino county is anxious about the proposed highway east of Daggett. Survey has not been made, even for location.

The last Legislature, a Chico inquirer is told, designated the road across the valley via Butte City a state highway, but made no appropriation for it. Its construction, therefore, is in doubt.

Until surveys are completed, no decision will be made as to location and construction of the new Feather River highway between Oroville and Big Bar.

Texas Rangers Versus Automobile Thieves

Hard times ahead for automobile thieves in Texas. The Texas Law Enforcement Association has been formed at Austin, where it endorsed a plan submitted in detail by Governor Hobby, providing for extraordinary activity and co-operation between rangers (the state police) and local authorities, based on prompt information to be sent from all sources to a central bureau in the adjutant general's office. The plan is to minimize the number of suspended sentences, to make the minimum sentence two years for the first offense and five years for second and subsequent offenses; nothing said about fine at all, and minimum bail to be $2,500; finger prints and Bertillon measurements to be taken even in cases of suspended sentence.

Architects Add Automotive Department

Mann & MacNeille, architects and construction engineers, have added to their organization an automotive department with headquarters in the Book building, Detroit. This department is designed to render expert building service to automobile dealers, garagemen, repairmen and others engaged in retailing automotive merchandise, and is prepared to carry out work at any point in the country.

The aim of this new department, the first of its kind, is to cut the cost of construction and to increase the operating efficiency and sales-pulling power of automotive buildings by improved design resulting from concentrated effort in this field.

Semi-Prediction on Alcohol as Fuel

From a statement by the Motor and Accessory Manufacturers Association is deduced the semi-prediction that laryngeal dryness due to prohibition may be compensated for by diversion of attention from that use of alcohol to its use as motor vehicle fuel. The idea was discussed by engineers and executives in the association, from the point of view of motors, brakes, ignition systems, carburetors and other equipment. At their banquet in New York a song of two verses, with chorus, carried the theme, to the tune of "The Dark-Town Strutters' Ball."

PACIFIC SHOW NUMBER
MOTOR WEST
FEBRUARY 15TH.

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THE MOTORING AUTHORITY OF THE PACIFIC COAST

Established 1907

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With Regard to Federal Aid

NUMEROUS newspaper articles in all the Western states show that, more and more, while routes of national scope are strongly desired, the road to market is needed first. Both as to this and as to long through roads, resolutions framed in Colorado and unanimously passed at the national convention of state highway officials, held in Kentucky, deserve support from all who use the leverage they can exert upon their representatives in Congress.

The resolutions were promised the support of the Department of Agriculture, in which the Bureau of Public Roads and Forest Service approve or disapprove road-building projects submitted by localities through their state highway departments.

The resolutions urge that on every approved project the Government's participation of cost be the percentage ascertained by multiplying its 50 per cent, provided by the Federal aid law, by the percentage of area federally held in the state, and adding the result to the Government's 50 per cent.

Thus, in Nevada, where virtually 90 per cent of the state's area is federally held, the Government share of cost of all projects would be 95 per cent, the state's only 5 per cent. This may seem extraordinary to Eastern readers, but is no more so than the federal withholding of such a vast proportion of a state's area. In the state of Washington—oh, happy Washington!—only 2 per cent of area is so held. Perhaps that is why Washington's population per square mile exceeds that of California.

Rolfe C. Spinning on Distribution

ROLFE C. SPINNING, advertising manager of the Service Motor Truck Co., Wabash, Ind., met a South Dakota farmer on the national motor truck development tour. They discussed high cost of living. It was material for an article by Mr. Spinning in the Nation's Industrial Department of the "Outlook."

Farmers do not get the increase indicated in food-stuff prices; in addition to production, distribution is a chief need, said the article. One other powerful factor is buying—concentrated, co-operative buying; in fact, the principle in this factor should permeate all others.

There are also many factors which may be called accessory, and perhaps the most important one of these, a feature of distribution, is transportation, of whatever form.

First, buy the elemental things. Buy them right; co-operatively; thus increasing production economy as well puzzling the profiteer; a bit of boycotting may do him good.

Then produce—as prolifically as necessary for the quantity and distance limit. There should be national, state and county agencies to supply this data.

Then distribute. If this is done right, again it will involve, on the part of the buyer, co-operative, concentrated buying; and on the part of the seller, economical production and marketing; standardization; many useful angles to this.

In the degree of excellence of distribution is the retroactive key to the whole situation. If it is faulty, the scheme fails, partially or wholly. If it is good, everybody profits more, though quite probably prices will be lower: and its being good, when all else is said and done, depends vitally upon transportation.

Good highways and motor trucks, then, are simply indispensable. By stimulating production, they increase supply. By facilitating distribution, they not only increase demand, but, with concentrated, co-operative buying, protect it against exorbitance.

Will the Front-Drive Predominate?

WHY is it easier for a mule or a man to pull than to push? Presumably because it or he is so constructed that in pulling it or he has better leverage. Elephants often push, presumably because their great weight and ample "wheelbase," make it comparatively easy; but they also pull, and probably to better advantage.

Comes a man from Australia, revivifying the question—why not a front drive—i. e., a pull instead of a push—for the automobile? Using an old English four-cylinder "boat" of the vintage of 1911, developing only 14.9 horsepower, he has been ambling about this country. Over there and over here, in two years, he claims he has covered 20,000 miles. He says changing the machine from rear drive to front drive has increased the speed 20 per cent: and in a hour's test, with a "Motor West" man as observer, repeatedly 45 miles per hour was attained.

More speed, thus obtained, means easier mechanical action, easier traction, less fuel and wear for a given result. Are these desirable? If so, are they practicable?

Concerning Lawmakers' Eccentricities

WE know from actual contact with road builders and highway administrators that there are two sides to the question—that roads should be built to fit suitable loads, and that then the loads should fit the roads. Our little hobby, co-operation, bobs up here. He who hogs it get it, in the upper or lower part of his vertebrae, if he receives what is coming to him. The man who operates a super-heavy motor truck harmfully on roads which have been conscientiously built according to the

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average needs of the region, by his porcine propensities brings trouble to all motor vehicle users, because the people resent in kind. General Manager Alfred Reeves, of the N. A. C. C., said as much in his address at the convention of motor truck sales managers.

In their resentment, or in basic ignorance of the co-operative idea, legislators big and little place prohibitive restrictions, including fees. A mutually tolerant policy must be adopted. Dealers can do much toward this by absorbing and distributing the practical information which they read.

As to the theory that there need be no limit to weight if its distribution be adequate—the theory is not entirely practicable. Some loads would have to have impossible wheel-bases and chassis widths to accommodate some roads—many roads. The average highways of any vicinity must be regarded as a decided factor, else trouble is sure to come.

Will be Better than Ever, this Year

NOW and then one hears someone say: "I wish I could get hold of a ——— with a 1914 motor"—or a motor of some other year. "They never have turned out a motor like that since."

Maybe so, maybe so. But, on the whole, motors and all other parts have been bettered year after year, and in 1920 all results of previous years will be eclipsed and will be worth any advance in price which accompanies them.

In design and efficiency, the improvements which have been made and still are being made are startling upon comparison covering a few years of time. The other day the writer was passed by an automobile which, in the somewhat teeming traffic, seemed absolutely silent. Silence alone is not the golden sign of merit, but it is one of them. The machine's quietude as to sound was in harmony with the quiet beauty of its lines and coloring. Compared with anything produced half a dozen years ago it was a marvel—a symbol of the progress which has been made.

Another Thought on Street Car Tracks

WE MADE some remarks on why street car tracks will pass; told about the large percentage of street area that is monopolized by the tracks; of much of it that is not used enough and some that is used too much—as an earnest look at the surface of the street will prove to anyone; of the jars to vehicles which swing out, into the street car track area, in passing others ahead—jars of gold values are wasted annually by this.

We spoke of the greater danger, too, to all concerned, than on streets of more traffic elasticity; and may have mentioned the noise, which, by using up human energy, wastes money.

But we forgot to mention one factor which is one of the greatest nuisances among all traffic-hindering nuisances—the automobile stops necessary, and more or less observed, when street cars stop at crossings. We have not the data with which to calculate the approximate loss in dollars, through loss of time; but in any large city the loss must be tremendous. Add to it the loss due to mechanical and fuel wear and consumption, in stopping and starting; and consider the dangers always present, when careless pedestrians or careless drivers do not watch their step or clutch or brake.

The trackless trolley, or the self-driven street car, which can be in traffic without obstructing it; which can generally go to the curb to take on or let off passengers; around which other vehicles can thus pass on the left, without having to stop—that is what is coming. It is a fit subject for wide-awake newspaper editors to stir up. The sooner the public is given facts by which the disadvantages of cities which have not can be compared, especially in figures, with the advantages of those which have the trackless trolley or the still more advanced, reasonably sized self-driven, rubber tired passenger buses, the sooner public opinion will bring about an improvement which is much needed.

The noisy, space-eating heavy street car of today is more out of date, relative to the present traffic needs, than the stage coach was when the cable car arrived.

Royalty Situation Pathetically Amusing

WE KNOW of a huge paving material company which ought to take lessons from the best psychologist it can find. Not only would the investment pay it a fine profit, but the people would profit as well.

Inelastic roads cost more to build and do not last anywhere near as long as elastic ones, if the latter are of the right materials, put down right; but if the people and their newspapers resent what they call bribery, and this leads to resenting payment of royalty on patents, there's the inelastic, relatively non-durable road, and the devil to pay, and everybody else loses.

Up and down the Pacific Coast the resentment mentioned grows louder and stronger. The huge Eastern paving material company's patents have nearly expired. If it would immediately discard them and seek work under the most open competition possible, putting the loud pedal on its remarkable service department, everybody but the inelastic road devil would be well rewarded.

Progress in Air Transportation

THE automobile dealer who keeps his ear to the ground probably also will keep his eye on the sky, and gain accordingly. There is nothing to be scared about. Highway transportation on the ground probably always will be, in relation to all other forms, what it is now, or rather what it would be to that of railways, if highway systems were as they should be. Transportation by road is feeder transportation, more and more necessary to railroads, which need never be feared as competitors. Nor need air transportation methods be feared if they are watched and, in proper time, absorbed; which is also true of such ground methods as by motor truck and tractor.

Major Glidden, of the around-the-world aerial derby commission, told a San Francisco club that a $10,000 "pony dirigible" is being built that will rival the touring car, carrying three passengers 500 miles at one stretch, at 50 miles per hour. Not at all unlikely—probably quite certain.

Matter of Thefts Coming to a Head

THE quicker a boil comes to a head the quicker it bursts. The present intense activity of automobile thieves will hasten the use of the best one or more methods for minimizing thefts; notably the new national law covering interstate traffic in stolen machines, perhaps. The tenseness of the situation is indicated by the near-lynching of a thief in Oklahoma and the rising rates on insurance.

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Oakland Show Huge Success

Resulting Business Will Total Well Toward the Million Mark—77 Exhibitors Showed Wares in Auditorium

THE first large-scale Pacific Coast automobile show of 1920, closed its doors, Sunday night, January 25th, at the Civic Auditorium, in Oakland, Cal.

The 1920 Oakland show was the magnet for car owner and automobile tradesman through Northern and Central California in the same sense that the great San Francisco exposition, which it antedated this year by a month, has represented the Pacific Coast in the past.

The East Bay section, the continental side of San Francisco Bay, embracing Alameda and Contra Costa counties and the thriving centers of Oakland, Berkeley, Richmond and Alameda, naturally furnished the bulk of the record-breaking attendance, but the Oakland exposition made its influence felt in every part of California "north of Tehachepi."

To sell cars, was the first object of the show, which was held, with Robert W. Martland as manager, under the auspices of the Alameda County Automobile Dealers' Association. Official figures are lacking, but orders placed at the Auditorium seem to have exceeded the six-figure mark. Sales within the next two weeks are expected to show a liveliness that will push the total to within sight of a million dollars.

The after-affect which East Bay automobile dealers must keep in mind will be the possibility of getting cars enough to meet the demand stirred up since the opening of the Oakland show on January 19. Added to this, indications point to an earlier rush of spring buying this year than ever before.

In the Auditorium thirty-five dealers, some twelve of them East Bay branches of San Francisco firms, exhibited thirty-eight distinctive automobile lines and sixteen truck lines. As regards accessories, some thirty-five dealers showed distinct lines of tires, tops, carburetors, batteries, magnetos, traffic signals, and so forth.

Several lines of cars and trucks new to the Coast were exhibited in a Coast show for the first time, among these being the American Six, Standard Eight, Templar and Commonwealth cars, and Sandow and Day-Elder trucks.

The new post-war Marmon was seen for the first time in an automobile show and attracted much attention. The tonneau is slightly larger this year, the engine and hood shorter.

The Haynes Suburban model was introduced to the Coast by Philip S. Cole, Inc., at the Oakland show.

The Nash car was very attractively represented on closed car models, particularly the coupe and sedan, also the Cole Aero Eight on coupe, sedan and open types.

The Buick was present in five open and closed models. The Commonwealth and Standard Eight were seen for the first time at a Coast automobile show. Kissel was present in resplendent custom-built models, one a coupe.

The Tuller Auto Co., new dealer for King and Auburn cars, unable to secure show space, held forth at its own showrooms, while the 1920 Scripps-Booth was seen in the Hotel Oakland lobby.

In the past the staging of automobile shows has often served as awakeners of public interest at a period of the year when sales dragged. The car-buying tendency has never flagged in the region east of the Bay since the beginning of 1919.

At the opening of the present year the two East Bay counties, Alameda and Contra Costa, showed registrations of 29,670 and 4,461, respectively, each an increase of 37 per cent over 1919. Los Angeles county, in the same period, added eight times as many cars, but had a ratio of increase of 31 per cent; San Francisco county, nearly three times as many, 32 per cent. Alameda county, containing the city of Oakland, ranks third among California counties for automobiles registered.

Following is the list of exhibitors:

Car Exhibitors.

American Motors Corp., American Six.
Charles H. Burman, Oakland Six.
California Motor Sales Co., Cole Eight.
Chevrolet Motor Co. of California, Chevrolet.
Don Lee, Cadillac.
Franklin Motor Car Co., Franklin.
H. O. Harrison, Dodge, Essex, Hudson.
Hebrank-Hunter Auto Co., Hupmobile, Elgin.
Howard Auto Co., Buick.
Ford Dealers, Ford.
Latham, Davis & Co., Stutz.
Markham & Purser, Oldsmobile.
Alden McElrath, Peerless.
John H. Morgan, Stanley Steamer.
Hugo Muller, Westcott, Standard, Commonwealth.
Pacheco Auto Co., Jordan, Mercer.
E. L. Peacock Auto Co., Chandler, Cleveland.
A. L. Rawlings, Marmon, Velie.
Frank O. Renstrom Co., Briscoe, Grant.
Tate Motor Sales Co., Nash.
Weaver-Wells Co., Studebaker.
P. K. Webster, Inc., Roamer.
Welsh Motor Car Co., Columbia.
Western Motors Co., Maxwell, Kissel.
Willys-Overland-Pacific Co., Willys-Knight, Overland.
Philip S. Cole, Inc., Haynes.
Paige Motor Car Co., Paige.
Victory Motor Sales Co., Mitchell.
Hughes & Monett, Templar.

Truck Exhibitors.

Butler-Veitch Co., Fageol.
California Motor Sales Co., Sandow.
H. O. Harrison, Dodge.
Hebrank-Hunter Auto Co., Kleiber, Vim.
William L. Hughson, Federal.
Liberty Auto Co., Rebuilt Cars.
Alden McElrath, Republic.
Moreland Motor Truck Co., Moreland.
E. L. Peacock Auto Co., Service, Bethlehem.
Tate Motor Sales Co., Nash.
Weaver-Wells Co., Day-Elder.
Western Motors Co., Maxwell, Kissel.
Konrad Gobel, Inc., Motor Stages.

Accessory Exhibitors.

Able Mfg. Co.
Alemite Lubricator Co.
Auto Electric Service Co.
Auto Ignition & Equipment Co.
Automotive Parts Service Co.
Automatic Tire Signal Co.
Beckman Machine Works.
Berger Brothers.
Breeden & Cole.
Champion Spark Plug Co.
Coast Tire & Rubber Co.
Compact Outing Set Mfg. Co.
J. B. Crowe Co.
Diamond Signal Co.
E. F. Garrison.
Konrad Gobel, Inc.
George M. Gray.
Harts Auto Signal Tail Light Co.
Hercules Mfg. & Sales Co.
Hobbs Storage Battery Co.
Lakeside Machine Works.
Miracle Motor Gas Sales Co.
Monanobile Oil Co.
Motor Car Electrical Co.
National Auto Signal Co.
Nemours Trading Corp.
E. E. Posten.
E. N. Schaar.
Scovill Machine Works.
Smith United Service.
Standard Oil Co.
Stewart Mfg. Co.
Sturgess Tire & Rubber Co.
U. & J. Carburetor Co.
H. Wurzel Co.

Industry's Needs in Iron and Steel

An estimate by Iron Age is that in 1920 the passenger car branch of the automobile industry will need 1,300,000 tons of iron and steel, and that this will be swelled to 1,500,000 tons by needs for tractors and trucks.

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PREVENTS ACCUMULATION OF CARBON

YOU can keep your motor snappy and full of "pep" by preventing the accumulation of carbon. Don't wait until your engine is choked and caked with it. Use JOHNSON'S CARBON REMOVER every 500 miles, then the carbon is removed while it is soft and powdery, eliminating the frequent grinding of valves and keeping the motor always clean. No experience or labor required—you can easily do it yourself in ten minutes—and the cost is trifling.

JOHNSON'S CARBON REMOVER

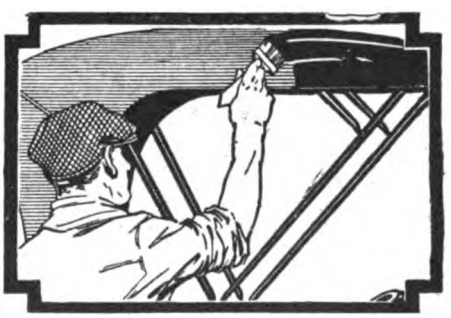
Johnson's Carbon Remover is a perfectly harmless liquid to be poured or squirted into the cylinders. Millions of cans have been used with satisfaction. It simply softens the carbon, then the heat from the engine pulverizes it and it is blown out the exhaust. **Johnson's Carbon Remover** contains no acids and does not affect lubrication.

It is the easiest, cleanest, safest and most satisfactory remedy for carbon. It will save you from $3.00 to $5.00 over any other method without laying up your car. A dose of **Johnson's Carbon Remover**—the engine laxative—will stop that knock—quiet the motor, and give the maximum power with the minimum amount of fuel.

JOHNSON'S

Hastee Patch

This is the ideal repair for tubes, casings and rubber goods of all kinds. No time, labor or heat required. A Patch can be applied in three minutes and it's so simple a child can use it. Gives equally good results on a pin hole puncture or on a large blowout.



JOHNSON'S

Black-Lac

Here is a preparation with which you can make your gray, dusty top and side curtains look like new. Johnson's Black-Lac is unequalled for blackening fenders, rims, hoods, lamps—and in fact, all worn metal parts. Prevents rust and keeps your car in a high state of repair.

JOHNSON'S

Radiator Cement

will stop leaks immediately without laying up the car—no mechanical experience required. It is absolutely harmless in every respect. It isn't a makeshift—it's a permanent repair. It will ordinarily seal a leak in from two to ten minutes. A half pint is sufficient for a Ford.

For Sale at Leading Hardware and Accessory Stores and Garages

S. C. JOHNSON & SON, M. W. 2, Racine, Wis.

ESTABLISHED 1882

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The Car of Commerce

Keep Parts in Foreign Field

Not Merely Enough, but Surplus, Urged by Head of Motor Transport Corps on Basis Experiences in France

ONE should try to visualize what the other man says—there may be great value in it; the possibility is worth the time given it.

Few of us who were not "over there," in the muss, visualize it. Brigadier General C. B. Drake, U. S. A., chief of the Motor Transport Corps, knows what developed there, of use to producers of motor vehicles. He says they should provide, with especial reference to users in other countries, for design resulting in vehicles doing the best possible if so be they do not carry spare parts; to nevertheless keep there, everywhere in fact, not merely what too often is called a full supply of parts, but a surplus.

Ignoring human inability to make 110 pieces suffice for 100 new vehicles and 10 actual repair jobs, has paid an enormous penalty in useful vehicle hours. All but useful vehicle hours, he says, are financial burden on manufacturers as well as users.

He points out that apparent economies in this respect have proved lack of breadth of view. Every user and manufacturer must honestly study and understand quantities required for shrinkage in factory, in transit, in sales, and in users' service stock. Adequate parts service is indispensable in any motor transportation problem.

He tells interestingly of how, in 1914, the passenger car was fighting its way into the utility class, and the motor truck was a successful experiment, to be considered seriously for short local traffic, while good roads agitation still was viewed suspiciously, as being possibly pork barrel politics. In 1919, especially for its service in the war,—well, in France the automobile and motor truck are paired with the wonderful French cannon, the 75s.

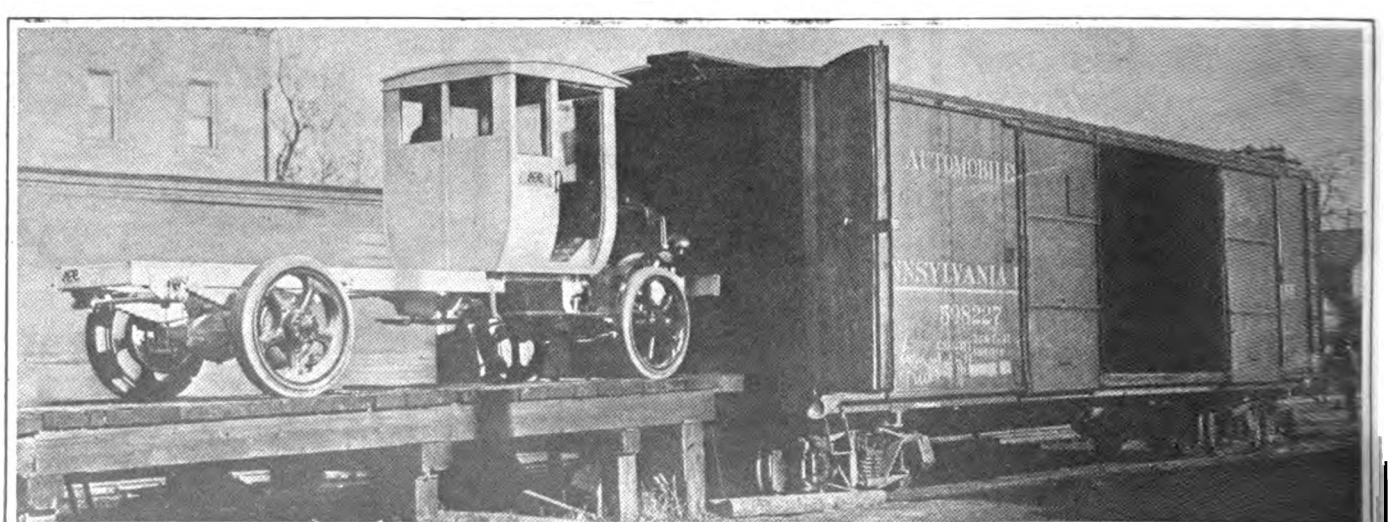
It was in France, during the war, that the transport phase of automotive service was developed, far ahead of what otherwise would have been normal evolution from the phase of perfection of design and model. General Drake says the allied armies have much to give the civilian world in motor transport organization, development of operating centers, elimination of "bottlenecks," (which throttle terminal and road capacities), road values, training of operating and maintenance personnel, inspection, repair, supply and salvage methods—particularly in interchangeability of parts and accessories.

This Was the Acme of Hospitality

Time flies, and Christmas is a memory. For officials and employes of the Acme Motor Truck Co., Cadillac, Mich., a particularly pleasant memory is that of the annual dinner of December 27, when a new unit building was cleared, tables laden with turkey and all the trimmings, the Acme band and quartet given a center space, and goodfellowship given full flow. Sales Manager C. J. Helm, as Santa, drove into the building an Acme truck on which was a gift for every person present, including the little folks. Great galvanized tanks, hoisted from the boiler room by cranes and fitted with steam fixtures, were used for the cooking, some of which was done by office force men who had done K. P. duty in France. It was the largest meal ever served in Cadillac. Addresses were made by the president and secretary of the association, Messrs. Kysor and Helm, and others; and there was community singing.

Every summer, on the shores of Lake Mitchell, the company gives its employes a picnic; not only that, their "time" goes on meanwhile! It goes without saying that this policy produces good results. Visitors to the plant comment upon the clean, clear-cut, 100 per cent American look of the employes.

Give the battery a drink of distilled water every two weeks.



UP-TO-DATE LOADING METHODS AT "ACE" FACTORY SPEEDS UP MOTOR TRUCK SHIPMENTS.

Loading trucks for shipment is an every-day affair at the plant of The American Motor Truck Co. Less than five months ago the company turned from war contracts to the production of a new motor truck—The Ace. Today, the Newark, Ohio, plant is shipping at the rate of over 100 trucks a month. This remarkable growth has meant hard work—reorganization, sales building, plant additions—but the market has demanded it. The Ace is a brand-new idea in truck building—a complete motor truck, with all of the necessary accessories built in—ready for immediate and continuous service on delivery.

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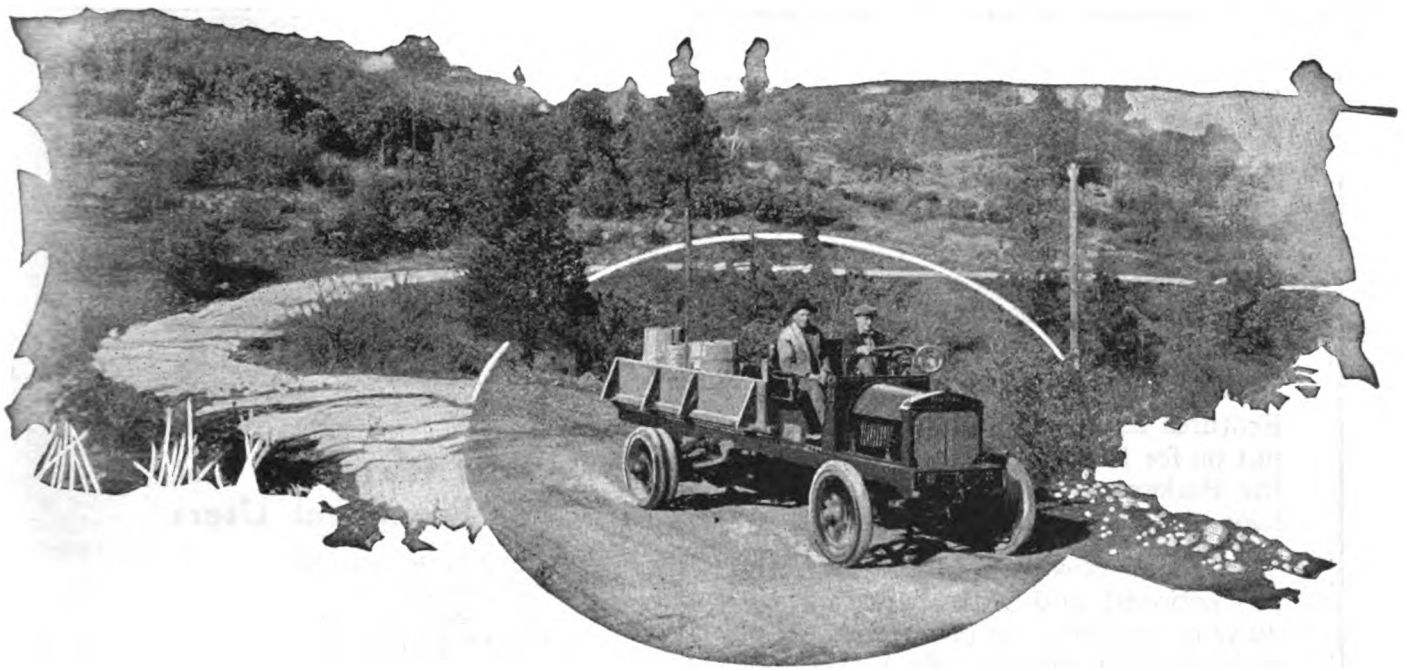

The Tenth Year Federal

Another FEDERAL

The TENTH YEAR FEDERAL TRUCKS

This is the sign of the "Tenth Year Federal," a sign significant of ten years of success in every field of truck transportation

Every dealer will realize what "The Tenth Year Federal" signifies in the kind of prestige that makes for a dealer's success.

Behind that phrase are ten long years of service to the truck buying public. Expressed in that phrase are all the efforts of our engineering department, our sales department, our advertising department,—all the efforts of our distributors and dealers—all the good performance of every one of the $50,000,000 worth of Federal Motor Trucks distributed throughout the world—every day of every year for ten years.

The Tenth Year Federal! It signifies success, the success of seven hundred Federal dealers and distributors, the success of thousands of Federal owners—all founded to greater or to less extent upon the success of the Federal truck.

But that phrase "The Tenth Year Federal" signifies something more than mere material success—it signifies firm adherence to manufacturing ideals and ideals of fair dealing witn the public and with Federal dealers. The good will which the general public holds for Federal is found intensified in the loyal attitude of Federal dealers toward Federal.

The Federal Motor Truck Company is proud of that attitude—proud that it can deserve such loyalty as it finds among its dealers and distributors. That loyalty is one of the big reasons why there are so many Federals throughout the world today. And in that loyalty is to be found *one* big reason why Federal will continue to increase and multiply much more quickly in the future, even than it has in the past.

FEDERAL MOTOR TRUCK COMPANY
DETROIT MICHIGAN

FEDERAL

One to Five Ton Capacities

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Read this about this truck

THE roads it must travel and the loads it must transport are the two factors which determine the design of the Parker Truck.

Features founded on *facts*, not freaks put on for flimsy talking points, make the Parker fit for any road under full load.

The famous Wisconsin Motor, perfectly proportioned and with unending endurance, provides ample power, *all* of which is applied to drive wheels through the Parker improved system of transmission.

Load strain and road stress are distributed *throughout* properly designed chassis, and the flexibility of the pressed steel frame, ball-and-socket radiator mounting, and extra long springs eliminate vibration and further decrease wear.

Rear axle strengthened for excess loads with radius rods relieving rear springs, makes a positive-tractioning, load-cushioning rear end.

That Parker features are sound from an engineering as well as a transportation standpoint is proven by the large number of Parker users among firms prominent in the automotive field.

Parker 4 Cylinder Trucks are made in 3 models - 2, 3½ and 5-ton.

Write for descriptive literature.

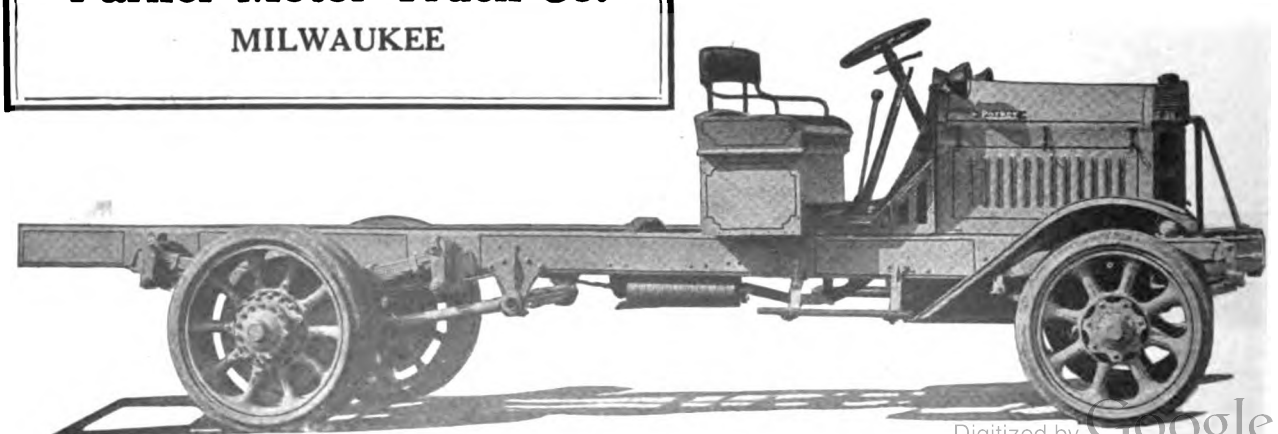
Parker Motor Truck Co.

MILWAUKEE

Parker TRUCKS

And Random List of Prominent Users

CUDAHY BROTHERS
STANDARD OIL CO.
WADHAMS OIL CO.
SCOTT & RICE CO.
STATE TRUCKING CO.
HARLEY-DAVIDSON MOTOR CO.
CHICAGO MOTOR DELIVERY CO.
MANDEL BROTHERS, CHICAGO
JOHN PRITZLAFF HARDWARE CO
RICHARDS FURNITURE CO.
BENESCH BROTHERS
THE ELECTRIC COMPANY, MILWAUKEE
BLUMENFELD-LOCHER CO.
TEWS LIME & CEMENT CO.
GOLL & FRANK COMPANY
INDEPENDENT MILWAUKEE BREWERY
C. NISS & SONS
MILWAUKEE VINEGAR CO.
NATIONAL DISTILLING CO.
NORTH SIDE LUMBER & FUEL CO.



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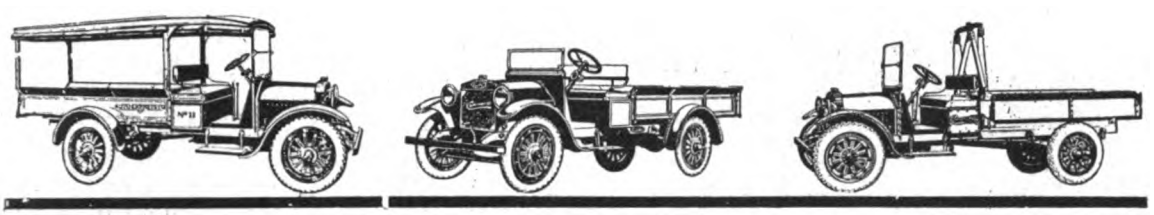


Commerce TRUCKS

Commerce users are invariably pleased with the performance of their trucks.

Farmer—Merchant—Hauling contractor—express lines—all find a Commerce model suited to their needs adaptable to their purposes.

And the Commerce in every case is not only a sound investment but a money making, profit earning investment.

That accounts for the increasing demand for Commerce trucks throughout the rural districts as well as in the cities.

It also accounts for the prosperity of the Commerce Dealer. Write for information about the Commerce trucks—today!

The COMMERCE MOTOR CAR CO.

DETROIT :: MICHIGAN

FREEMAN A. McKENZIE,
CITY GARAGE, INC.,
1205 South Olive St., Los Angeles, Cal.

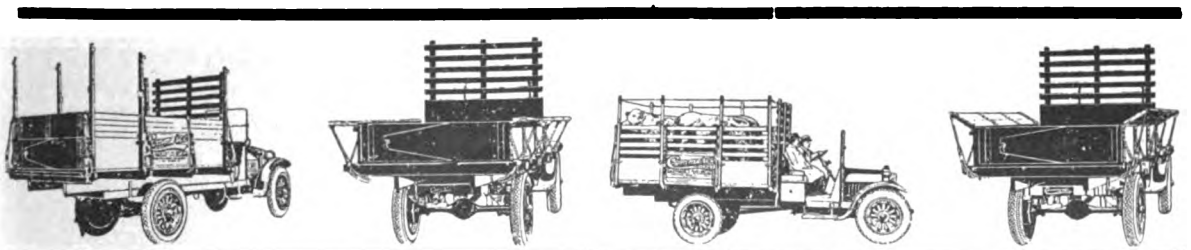
McCRACKEN MOTOR CO.,
Portland, Ore.

COMMERCIAL MOTORS CO.,
Seattle, Wash.

C. P. KIEL,
1830 Van Ness Ave., San Francisco, Cal.

SULLIVAN TAYLOR MOTORS, LTD.,
1260 Granville St., Vancouver, B. C.

W. B. WOOD,
Pacific Coast District Manager,
1205 South Olive St., Los Angeles, Cal.



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WHY GILKEY IS GLAD.

Following the Chicago and Detroit shows, Acason motor trucks will cumulatively increase the number of friends they have made among users and dealers. The Chicago exhibit was comprehensive and at Detroit four chassis will be exhibited.

Now turn to the Pacific Northwest. During the past month Dan Gilkey, Pacific Coast manager for the Acason, made new contracts with eight more dealers, bringing the total number of agents for the Acason in the Northwest to forty-two.

Note: The Acason had no dealers there until it began advertising in "Motor West."

Moreland Predicts Veritable Road Trains

The time is short between now and when motor trucks will be swarming the roads of the country with their double-ender trailers in veritable road trains, and doing the major part of haulage except over the great transcontinental distances. It is evident everywhere, says Watt L. Moreland, general manager of the Moreland Motor Truck Co., Los Angeles, enthused after a trip through the East. It is to be a year of unprecedented realization of what motor trucks can do to speed up everything that affects our purses and comfort; and a tremendous demand will be the motor truck manufacturer's problem. It is doubtful if he can meet it, especially as the product must not only flow in streams, so to speak, but must be right.

The optimistic prediction is warranted by the fact that motor truck production increased from 227,250 in 1918 to 305,142 in 1919, while passenger car production dropped.

Mr. Moreland went East especially for materials. Soon the company's large new plant at Burbank will be going. Then will come the new passenger six, a new line of trailers and a couple of tractors.

Carter Now Factory Manager Napoleon Motors

H. C. Carter has been appointed factory manager of the Napoleon Motors Co., Traverse City, Mich. Mr. Carter was for a number of years with the Dort Motor Car Co., Flint, Mich., leaving that organization to organize the inspection department of the Republic Motor Truck company, Alma, Mich. He became chief inspector for the Republic company with the organization of the inspection department. Mr. Carter is a man of broad experience both in the truck field and in all branches of the automotive industry.

Head United States Truck Sales in West

J. W. Bayard has been appointed to direct sales for the United States Motor Truck Co., of Covington, Ky., in Northern California, Oregon, Washington, Idaho and Nevada, with headquarters at Piedmont, Cal.

Southern California sales will be managed by A. B. Perry, with headquarters in Los Angeles, while H. A. Sayer, from Denver, will direct sales in Colorado, Wyoming and Utah.

Railroad Situation Moral: Buy Trucks

Bills in Congress, involving return of the railroads to their owners, foretell higher freight rates. It is claimed that every dollar of such increase means five dollars more cost to the ultimate consumer, due to the habit of passing the cost to the next fellow and charging a profit for doing so. In view of this situation, he who uses motor trucks has great commercial advantages due to cheap and direct transportation. He will gain to the degree that he is independent of railroads. That wise ones realize the outlook is indicated by the prophesy of R. E. Fulton, vice-president of International Motor Co., based on remarkable increase in sales of Mack trucks—58 per cent in one month—that soon motor truck makers will be oversold. He also points to the increased export demand.

Getting Maximum Efficiency From Electric Trucks

"Insuring Full Return on Truck Investments" is the title of a new 8½x11 four-page descriptive leaflet known as Publication 806, printed by the Cutler-Hammer Mfg. Co., of Milwaukee and New York. This leaflet describes and illustrates the new C-H automatic sectional type of battery charging equipment for charging battery-driven vehicles, trucks and locomotives. A separate section is shown in detail and an installation of a six-section equipment indicates the method of arranging in complete panels. How this charging equipment automatically cares for the charge, tapers the rate and terminates the charge, are discussed at some length. The universal unit type section is also included and typical fleets of electrics charged by C-H apparatus are photographically reproduced.

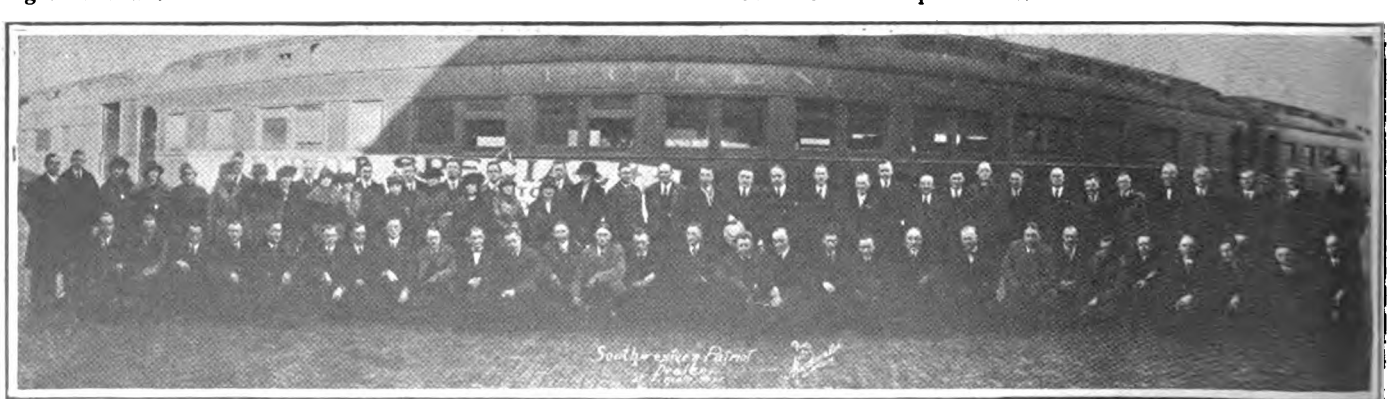
Show Brings Out Big Light Truck Demand

As an indication of the volume of truck business that manufacturers in the light truck field are to obtain in 1920, it is said that Director of Sales and Advertising George D. Wilcox, of the Commerce Motor Car Co., Detroit, took contracts at the New York Show for 2,000 Commerce trucks, with most of the deliveries asked for by the dealers in the next few months, and this is only the Eastern dealers' quota.

The Commerce company has just acquired two more acres of ground adjoining its present location, where additional buildings will be erected. This company is making plans to more than double its production of one to two-ton trucks for 1920.

International Takes Wright-Martin Plant

Plans are complete whereby International Motor Truck Corp. takes over the Wright-Martin Aircraft Corp. plant at New Brunswick, N. J., and other assets. Temporary stock certificates are being issued in exchange for the old stock. After the consolidation, International will have approximately $16,000,000 first and second preferred, each paying 7 per cent and cumulative, and about 78,000 shares of common of no par value.



SOUTHWESTERN PATRIOT TRUCK DEALERS AND SALESMEN AND THEIR WIVES ON ARRIVAL AT ROCK ISLAND STATION, LINCOLN, NEBR., MONDAY, DECEMBER 29TH.

A great many of the dealers pictured above are from the great oil belt of the Southwest. These men placed orders for immediate shipment for more than $1,000,000 worth of Patriot trucks and pledged themselves to more than $4,000,000 worth of business from their section during the year.

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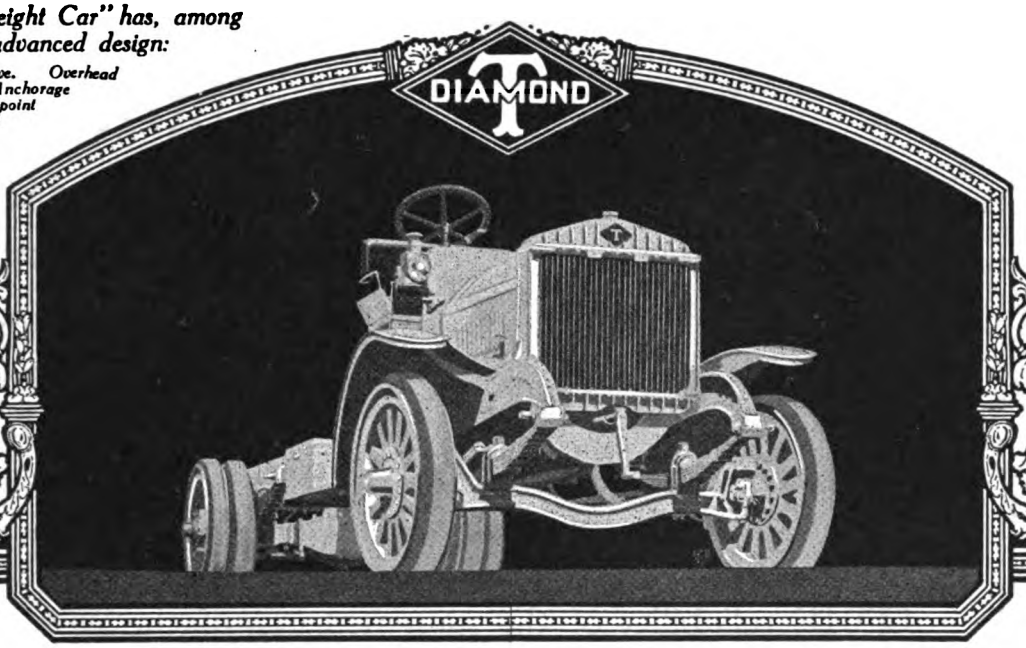
'The Nation's Freight Car" has, among ther features of advanced design:

'erfected Hotchkiss Drive. Overhead orm. Exclusive Spring Anchorage Patented) Unique three-point uspension (patent applied or) and other superior- ies too numerous mention, assembled a design that repre: nts the culmination f fifteen years' xperience.



DIAMOND T

"The Nation's Freight Car"

Authority begins here!

The only authority for statements about Diamond T comes from its *performance.* The proof must be in the product.

That is why we have persisted in pointing to the continuous success of this organization since 1905.

That is why we refer more than once to the fact that the first Diamond T trucks, of 1911, are still operating.

That is why the entire Diamond T line, from 1½ tons to 5, is termed, the country over, "The Nation's Freight Car."

That is why readers of MOTOR WEST become users of Diamond T without "mental reservations." And it is the one logical explanation for our suggestion that your order should anticipate your need.

These Distributors are behind Western Sales and Service:

Vernon A. Smith Motor Co.,
Distributors for the State of Washington
511-513 East Pike Street, Seattle, Wash.

Diamond T Truck Sales Agency of Oregon, Inc.,
Distributors for the State of Oregon
89-91 North Ninth St., Portland, Oregon

Hirsch Motor Company,
Distributors for Upper California
1131 Van Ness Ave., San Francisco, Cal.

Diamond T Pacific Truck Co.,
Distributors for Lower California
1220 S. Grand Avenue, Los Angeles, Cal.

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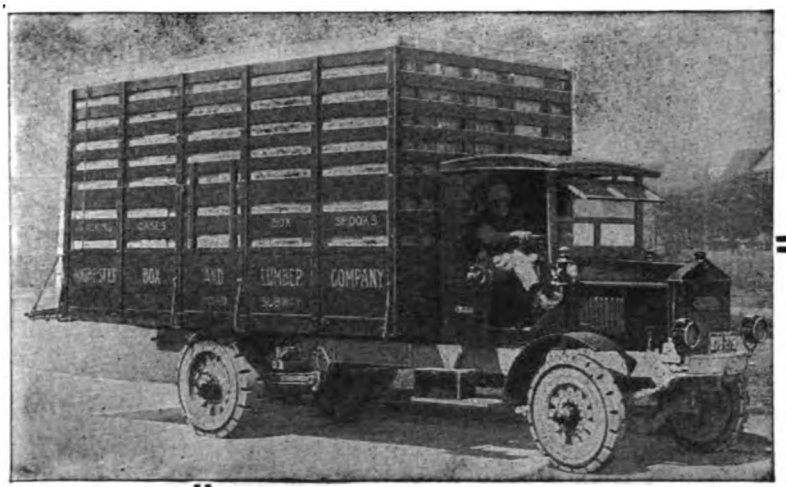

Reliability---
Of Manufacturer

A Selden Dealer said: "What the Selden Corporation say they will do—they do."

THE reliability of the manufacturer of the motor truck you sell to your friends and patrons should be a "first consideration." The Selden Dealer quoted above expressed the feeling of all Selden Dealers—a knowledge of Selden determination to fulfill all promises.

The Magazine, "Truck Transportation" will be mailed to those interested

Financially the Selden Truck Corporation is one of the strongest in the trade, perfectly able to back up Selden Motor Trucks and Selden Policy of Square Dealing, to the limit.

The steady, consistent growth of the Selden Organization at home and abroad, is a strong testimony of the reliability of the Selden Corporation.

To satisfy our distributing organization, to satisfy the Selden Owners, the policy of the Selden Truck Corporation is and always has been—"We Will Live Up To Their Highest Expectation."

And we have succeeded—ask any Selden Dealer or Owner.

Selden Motor Trucks 1½ to 5 tons capacity

Selden Truck Corporation

ROCHESTER, NEW YORK

L. M. FIELD, Pacific Coast Division Sales Manager

1401 Hewes Bldg. Los Angeles, Cal.

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Acason THE OWNER FIRST TRUCKS

EVERY Acason IS A GOOD TRUCK

400 Operate in Detroit—5 Years of Substantial Progress—Repeat Orders High—Powerful Motor Trucks Built for Service.

Serviced and Sold in Principal Cities

1 to 10 Ton Capacities—Some Territory is Still Open

Dan Gilkey, Pacific Coast Manager
Care of Acason Sales Co., 39 Van Ness Ave.,
San Francisco, Cal.

C. A. Baer, Asst. Pacific Coast Manager
Care of Northwest Auto Company,
Portland, Oregon

ACASON MOTOR TRUCK COMPANY

Exclusively Truck Builders

DETROIT, MICHIGAN

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Results, Not Prices, Count

Expert Gives Some Logical Arguments Showing How Motor Truck Pays for Itself in Short Time

"WHAT is the price?"

This is often the first question a business man asks when approached on the matter of motor trucks—or most any other commodity.

This is not a far-sighted policy, says Federal Traffic News, for at least two reasons. First, it is not the cost of a haulage unit that counts, but the work that unit will do for the purchaser and the saving it will effect. Second, that unit if properly handled will pay for itself.

If a $500 team makes six three-mile trips daily, delivering twelve tons, and a $2600 truck will make ten six-mile trips, delivering twenty tons, the truck will thus double the delivery radius, make nearly twice as many trips and haul many more tons per day. Should the business man hesitate to increase his investment $2000, when thereby he will double the area wherein he can make quick deliveries, thus greatly increasing his business territory and prospects?

The far-sighted business man will not be as much interested in the first cost as in the results that additional investment will bring.

"But my delivery volume does not warrant the purchase of a truck. We could not keep it busy, while a team can just handle the work."

And with this the business man expects to close the matter, but he hasn't, for this really is no reason for the use of a team. He keeps his team busy all day doing his delivery work. A truck will do the work in half a day or less, and then, apparently, he would have a heavy investment standing idle; but this need not be, for this time can be utilized to make the truck pay for itself—by doing haulage work for others.

The up-to-date farmer buys a truck. Yet he may have only two good loads a week to haul, or perhaps a partial load each day, yet he does not hesitate because that truck will make his trip to town in four hours when he must take all day with a team. He purchases a truck and when he goes to town with his milk and produce, he also takes along his neighbor's produce and likewise brings back supplies for these same neighbors or the village storekeeper and the truck pays for itself in the haulage done for others. Thereby, the farmer proves himself a real business man.

Now, why shouldn't the city business man use the same good judgment? Some owners are doing this. One average instance can be used by others with variations.

A prominent foundry company some months ago put a two-ton Federal in service, total cost $2541.14. Here are the costs, covering eighty-two days actual operations:

Interest on Investment	$ 41.00
Insurance (yearly $99.66)	27.06
Driver and Helper	835.84
Repairs and Misc. Expense	12.22
Registration Fees	9.84
Gasoline and Oil	84.21
Tires (.034 per mile)	56.92
Depreciation	77.90
Total	$1144.99

Formerly the foundry's haulage was taken cars of by a local man who charged $2.50 per hour. The truck during this time actually worked 492 hours for the foundry, which would have cost them $1.230 at the hourly rate. Thus the truck on this basis handled the haulage work of the foundry at an actual saving of $85 over the former method. However, the truck actually worked 719.3 hours, the balance of 227.3 hours being devoted to haulage for other companies. This work was charged at regular cartage rate—$2.50 per hour—thus permitting the truck to earn $568.25 after caring for the owner's requirements. Thus, during the period of 82 days the truck actually brought in $653.26 over and above the cost of its owner's deliveries.

The investment in the truck was $2541.14 and at the above rate of earning it will pay for itself in 320 days—less than a year. Thus they have made the truck pay for itself.

Truck Fleets Follow Road Building

How good roads increase demand for motor trucks is interestingly shown by an increase of 63 per cent in Oregon motor truck registrations for 1919 over 1918.

Highway work now actually under contract in Oregon totals $21,000,000. The greater part of these contracts were let during 1919. Registration figures, complete to the end of October, show that 5,158 motor trucks were then registered in Oregon, and 3,604 Ford trucks, a total of 8,762, as compared to 3,066 trucks, 2,277 Ford trucks, and a total of 5,343, in 1918.

Road construction work has created a big demand for trucks with dump bodies, mostly of the 3½-ton sizes. Completion of new highways has automatically increased the demand, entirely independent of construction work. The lesson first demonstrated in California that paved highways are inevitably followed by fleets of motor truck lines radiating out into the country to the smaller towns from the big centers, is now being again proven in Oregon.

Oregon truck dealers are all behind in their orders. They look to 1920 to be by far the busiest year yet known.

San Francisco-Los Angeles Express Line

Comet Express appears to be a good name for the regular motor truck line inaugurated between San Francisco and Los Angeles, with two 3½-ton Mack trucks as the nucleus. Each can go 35 miles per hour, laws permitting. One of them covered the 982-mile round trip, over the Coast route, in 48½ hours running time. The load south was 9600 pounds, the one returning 6500 pounds. The first load was of high-grade furniture, frail fixtures, etc., and nothing was broken, despite some unpaved detours.

Gersix Enters Truck Makers' Field

Detroit has no copyright on the ability to turn out motor trucks, as is being demonstrated by the Gersix Mfg. Co., of Seattle, Wash. The Gersix truck is already coming out in two sizes and added to this there will soon be seen a third size, giving Western truck users the selection of either a 1½, 2½ or a 3½-ton truck. "Not without honor save in his own country" does not apply to the Gersix and the makers have already received a notable volume of orders from local firms.

Hayes and House Elevated

O. W. Hayes is now general manager of the Republic Motor Truck Co., Inc., of Alma, Mich., and Thomas M. House is sales manager. Both have been with the company almost since its beginning. Mr. Hayes formerly had charge of purchasing, designing, engineering, and later was factory manager. Mr. House formerly was Eastern division sales manager, with headquarters in New York, and more recently Pacific Coast sales manager.

New Milwaukee Plant for Winther

The Winther Motor Truck Co., of Kenosha, Wis., has bought ground in Milwaukee, whereon is to arise a $250,000 plant. General offices will stay at Kenosha, where full operations will continue. To finance the new branch factory Winther is marketing an issue of $500,000 worth of 7 per cent preferred stock.

Fruehauf Advises Owners

The Fruehauf Trailer Co. has established a special department, in charge of W. R. Scobie, transportation engineer. The department will render assistance to Fruehauf owners in transportation problems.

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Standard
DETROIT USA

SHIP BY TRUCK and VOTE FOR GOOD ROADS

STANDARD STAMINA

WHILE Motor Trucks have come and Motor Trucks have gone—the Standard Motor Truck Company has steadily Led for Ten Years in the Building of Quality Trucks.

STANDARD Quality and STANDARD Stamina alone have sold several hundred STANDARD Motor Trucks in Detroit, Michigan, where STANDARDS are Built.

Quality Trucks—it goes without saying—are most Profitable in the End for Men who Own them as well as for Men who Sell them.

STANDARD Owners, as well as STANDARD Dealers, are numbered among the Trucking Enthusiasts of the World.

Dealers Write for Territory.

1, 2½, 3½ and 5-Ton Capacities with a Body Style for Every Business

STANDARD MOTOR TRUCK CO., DETROIT, MICH.

Standard MOTOR TRUCKS
Registered
MADE IN DETROIT USA

"All the name implies"

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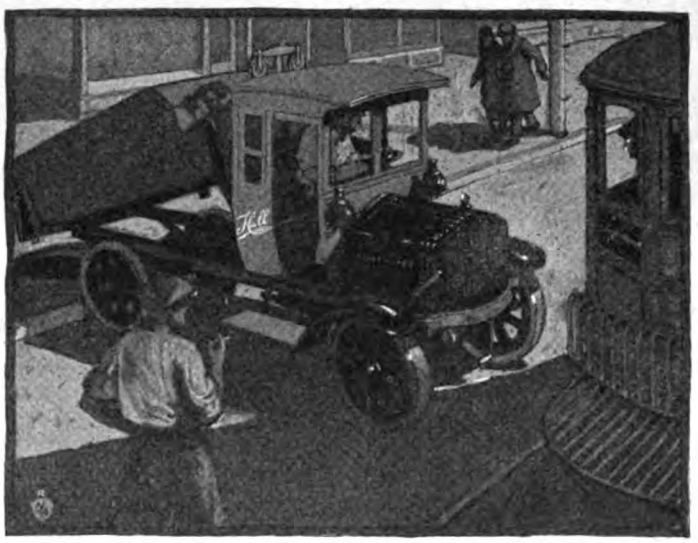
HAUL IT IN A HALL

THE HALL "SHORT-SPECIAL" TRUCK



ANNOUNCING

The New Hall "Short-Special" Truck. Especially Adapted for the Needs of Congested City Traffic.

The HALL "Short-Special" meets an actual and vital demand. It fills a need in the work of city trucking that puts it in a class of its own. It reduces time of loading, haulage, delivery and consequently increases hour-mileage and lowers cost per ton haul—all points that spell increased service and operation economy for truck owners of every class.

Among the outstanding advantages of the HALL "Short-Special" truck in city work, is the fact that it will take the shortest street and alley turns easily and can be backed up to curbs on streets used by street car lines without interfering with the regular stream of traffic.

Write for folder which gives complete details and specifications. Address Sales Manager, 15 Roby St., Detroit, Mich.

LEWIS HALL IRON WORKS, Detroit, Mich.

As Manufactured by
The LEWIS-HALL IRON WORKS
DETROIT, MICHIGAN.

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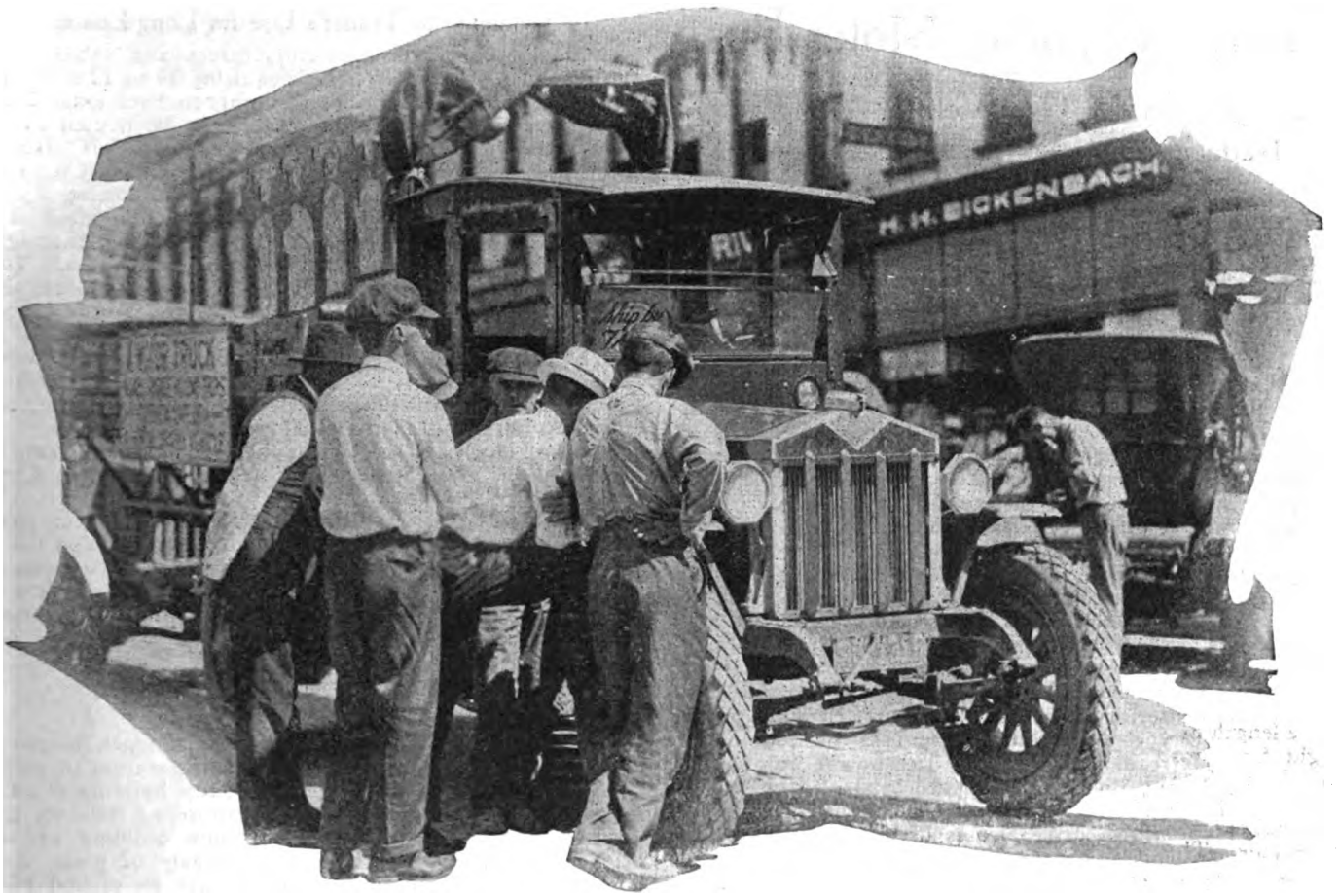

They Are Interested in Clydesdale

This is an illustration of the immense amount of interest displayed in Clydesdale's exclusive feature, "The Driver Under the Hood."

The truck shown is the one which went on the National Truck Development Tour, and the men are prospective truck purchasers in one of the towns at which the truck train stopped. These men had heard of the "Driver Under the Hood" and were so engrossed in an examination of it that they failed to see the camera man.

This intense interest which is always shown in "The Driver Under the Hood" is one of the secrets of the success of Clydesdale dealers. And back of this are engineering principles and manufacturing practices which have made the Clydesdale a leader among motor trucks for more than eight years.

Increased production facilities will enable us to offer the Clydesdale franchise to a few more dealers who have facilities for handling a "world proven" motor truck.

No Other Truck Has It
"The Driver Under the Hood"

One to Five Tons Net Load

THE CLYDESDALE MOTOR TRUCK COMPANY, CLYDE, OHIO

CLYDESDALE

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Large Capacity Motor Bus

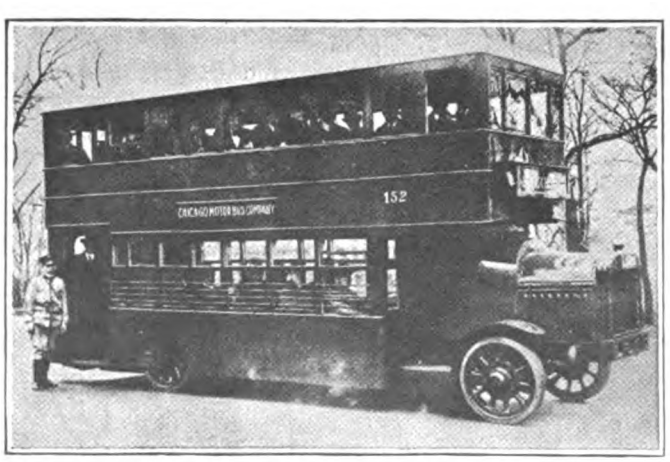
Chicago Trying Out Vehicle Designed to Reduce Congestion in Business Section —Carries 60 Passengers

RESIDENTS of Chicago recently were surprised to see on Michigan Boulevard a brand-new and striking type of motor vehicle—a motor bus with a covered upper deck practically enclosed in glass. The new vehicle has the front-wheel drive, the floor on a level with the curbing for convenience and speed in taking on and off passengers, and the covered straight stairway which is safer than the winding and exposed one. The new bus seats sixty and, while the increased seating capacity is 18 per cent above the open-top type, in actual service the new model shows in comparison an average increase to date of 29 per cent of passengers carried, due undoubtedly to the greater number of protected seats available.

The length of the car is 25 feet, the width 7 feet 6 inches; height from roadway when unloaded, 12 feet 11 inches, and 12 feet 8 inches when filled. The wheel-base is 176 inches; height of lower deck from roadway, 12¾ inches. Both decks are lighted brilliantly by a generator driven by the engine. The vehicle is heated by exhaust gases from the engine which pass through pipes placed near the floor in the lower interior of the car. The front tires are of the 6-inch single type, while those in the rear are double and have a total tread of 12 inches. The power unit is the American Motor Bus Co.'s standard type of front-wheel drive, made detachable, and with a constant mesh transmission. The worm drive also is used. The brakes are on the rear wheels and are placed so as to be applied approximately to 500 square inches of braking surface.

The low-hung body allows the passenger to enter or leave the bus directly from the surface of the sidewalk. There are 41 windows, 15 on the lower and 26 on the upper deck, thus affording practically an open vehicle during pleasant weather.

The advantages of this new type of bus are: The capacity to carry a larger number of passengers with practically no increase in dimensions; it is capable of operation in any kind of weather or climate; it enables the operator to obtain a maximum revenue from any given route by providing increased accommodations during peak hours of traffic demands with a number of units less than that required at present, reducing not only the cost of the investment, but the maintenance and operating costs in relation to the number of passengers carried; it tends to minimize the probability of congestion in traffic by providing a means to transport passengers in larger numbers in a vehicle which is flexible in its ability to seek the point of least resistance in its progress through a congested district.



DOUBLE-DECK MOTOR BUS NOW RUNNING IN CHICAGO.

Awakening to Trailer's Use for Long Loads

Gradually contractors, manufacturers and others are getting out of the horse habit, requiring 10 to 12 animals, traveling two or three miles an hour, to haul extra-long objects which, by truck and trailer, can be hauled at 10 to 12 miles an hour and much more cheaply. A. C. Bushnell, sales manager for the William L. Hughson Co., Los Angeles, Lee trailer distributors, tells the following:

A refining company in Wyoming hauled a steel still weighing 30,000 pounds, 35 feet long and 12 feet through, 50 miles from Casper to Salt Creek in 1912 hours. The still was carried in a special cradle of heavy timbers, the front end supported on the rear of a 5-ton motor truck, the other end on a pair of two-wheel trailers, coupled. A part of the trip was through roadless open country, with some steep hills, where a 2-ton truck was used as a pusher. Previously a similar still, hauled over the same route, required 36 horses, 10 men and 30 days time.

A motor truck and trailers hauled a German U-boat, in three sections, each 50 feet long, from the water to Central Park in New York City.

Probably the heaviest load ever carried on rubber tires was a 40-ton marine engine casting. It was hauled on a specially constructed two-wheel trailer of 100,000 pounds carrying capacity, with 40x12 solid tires. The load was pulled by a 6½-ton truck, which carried a 7-ton steam engine for traction. The 20 miles was covered in 2¾ hours.

Indiana Truck Expansion Justified

The remarkable growth of the Indiana truck business at Marion, Ind., continually requires the erection of additional buildings. A large machine shop building 60x400 feet is now being built for the purpose of holding the machine shops. The walls of this new building are of brick construction, with the sides largely of glass, and not a post in the building. It is to have an arched roof supported by wood lattice trussed construction.

This new building will give the machine shops facilities that are modern to the last detail, will greatly aid and increase the capacity, and make possible still further improvement of the quality of the truck.

The Indiana Truck Corporation has just recently started to manufacture its own motors, which makes much additional machine work necessary.

The Motor Truck Makes for Health

Investigations carried out by the Sanitary Bureau of the New York Department of Health show that the motor truck is rapidly emptying the stables of the nation. These statistics are part of a survey now being made by the sales department of the Clydesdale Motor Truck Co., Clyde, Ohio, preparatory to an intensive sales campaign which is soon to be inaugurated.

In 1917 the Bureau found that there were 10,547 stables in New York City. In 1919 these had been reduced to 7,920. In the same length of time the number of horses had been reduced from 108,036 to 75,170. A decade ago the passenger car took one big job from the horse, and now the truck is robbing him of his last opportunity for service.

Lockwood Mfg. Co is Organized

Pay-as-you-go-out huckster and grocery wagons, the housewife entering at one end and paying on leaving the other end, is the idea of the newly organized Lockwood Mfg. Co., capital $100,000, of Saginaw, Mich., which will mount traveling-store bodies on its 2-ton motor truck chassis. Two hundred orders are said to be in hand.

Bethlehem Capital Increased

The Bethlehem Motors Corp., of Allentown, Pa., has increased its capital stock from 130,000 to 200,000 shares, no par value. Out of the 70,000 additional shares, 43,334 were offered to stockholders at $28 a share, on the basis of one share for every three previously owned.

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The Hand-Made Truck

"KALAMAZOO"

New Models Coming Through

Ship by Truck

Kalamazoo Motors Corporation
Motor Truck Division
Kalamazoo, Michigan U. S. A.

1½ 2½ 3½ Tons

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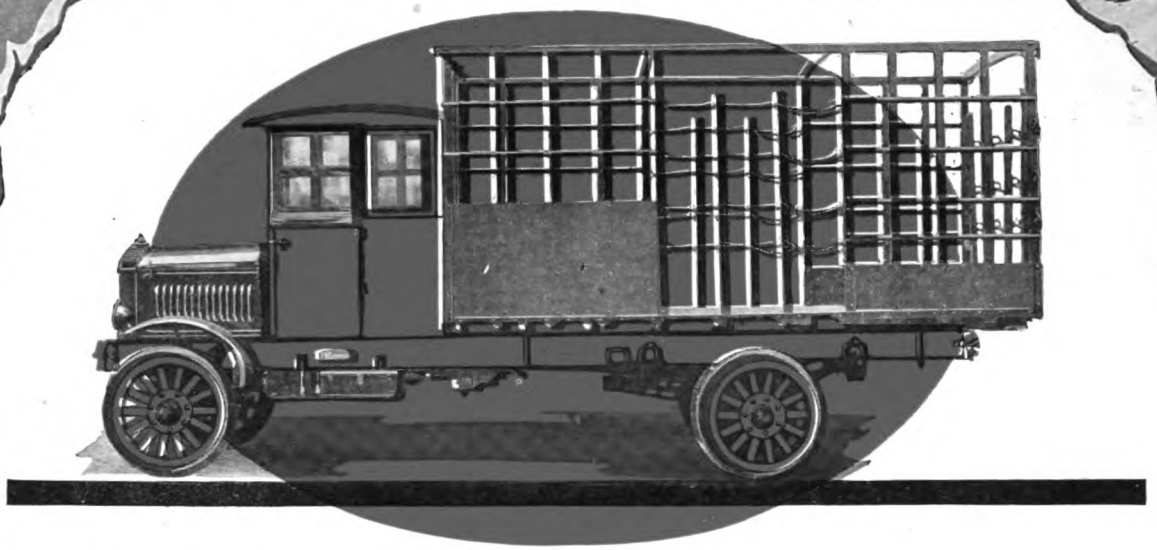

"KALAMAZOO"
The Hand-Made Truck

We Take No Chances

EVERY UNIT MUST HAVE PROVED ITS WORTH BEFORE WE ADOPT IT; WE STAND ON OUR THREE YEAR RECORD

Words are more or less idle—*The Truck's the Thing.* Your reputation, hence your business success *depends* upon the dependability of the ***product you handle.*** For that reason, if for no other, it will pay you to investigate the "Kalamazoo". For quick action, desirable territory still open.

GENERAL SPECIFICATIONS

MOTOR: 4 cylinder; pressure lubrication to all bearings.

CLUTCH: Dry disc steel with Raybestos lining.

TRANSMISSION: 4 speeds forward and reverse.

AXLE: Worm drive (David Brown type) semi floating.

WHEELS: Steel.

UNIVERSAL JOINTS: Oiltite.

DRIVE: Left hand; center control.

LUBRICATION: Alemite system.

RADIATOR: Tubular core; 5-piece assembly.

STEERING GEAR: Split nut type, semi-reversible.

STARTING and LIGHTING: Two-unit 12 volt system.

RADIUS RODS: I-beam bridge construction bronze bushed.

FRAME: 22-point carbon rolled steel, oversize on all models.

SPRINGS: Electro silicon manganese master leaf; bronzed bushed eyes.

CAB: Three-man Coppock universal enclosed type, all steel construction.

EXTRA EQUIPMENT: Radiator guard, towing hooks front and rear, tool kit, Boyce motometer, jack, pump, etc.

The Most Completely Equipped Motor Truck in America

First Showing of New Models at Chicago Show
SPACE C-5—MAIN FLOOR
INTERNATIONAL AMPHITHEATRE

Ship by Truck

1½ 2½ 3½ Tons

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Truck Dealers:
These Jumbo Features Lower Sales Resistance

JUMBO is the *Truck of Tomorrow.* Two years from now it is a certainty that most high-grade trucks will be equipped as is the present line of JUMBO Trucks. Therefore it behooves every live dealer to get in line and be two years ahead of competition.

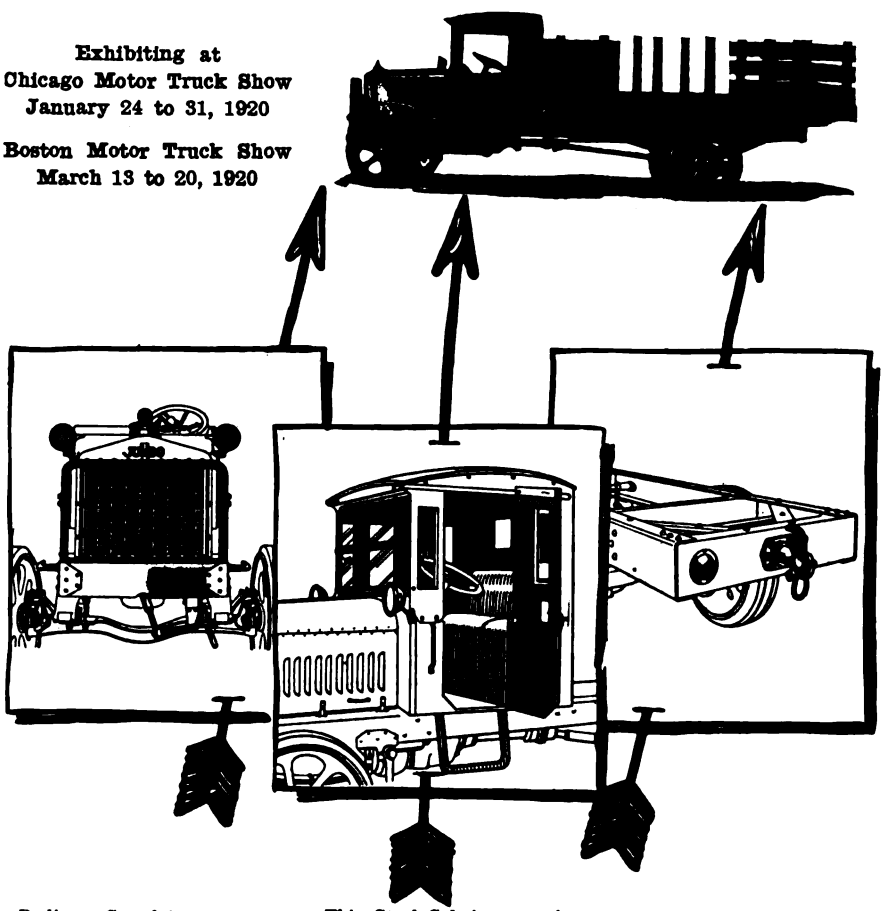
The Nelson Motor Truck Company seeks aggressive business men to represent it in territory now open—men who want to sell trucks that not only build reputation for the dealer, but build large substantial profits—trucks that are known to stand up and deliver and trucks that mean repeat orders.

JUMBO Trucks will be advertised to every possible prospect. This advertising covers every efficient phase of publicity, national business magazines, farm publications, automotive trade journals, newspapers and direct mail literature.

The 1920 JUMBO sales plan is an exceptional opportunity for live dealers—investigate NOW. Write or wire.

Exhibiting at
Chicago Motor Truck Show
January 24 to 31, 1920

Boston Motor Truck Show
March 13 to 20, 1920



Jumbo
Constructional Features

Buda Motor, Zenith Carburetor, Simplex Governor, Eisemann Magneto, Brown-Lipe Transmission, Clark Internal Gear Axle.

Straight line drive under load. Steel cab with fore doors, windshield, sliding sash curtains opening with doors. Electric lights, horn, storage battery, ammeter, radiator shutters, motometer, fan shroud, radiator guard, extended frame forming bumper, hub odometer, pigtail tow hooks, spring draw bar and fourteen other big features.

This equipment is standard on JUMBO Trucks—no extras to buy except body.

Radiator Guard is mounted independent of radiator. Shutters controlled by driver assure maximum engine efficiency at all times. Frame extended in front forms bumper. Oversize ball thrust in steering knuckle gives Jumbo Trucks the steering ease of a passenger car.

This Steel Cab is part of the standard equipment on Jumbo medium and heavy duty models. Fore doors with sliding sash curtains opening with doors. Heavily stuffed cushions provide comfort for driver. Clear vision windshield set in rubber to prevent rattling.

Even the Tail Light bears evidence of Jumbo engineering skill. It is a minor detail, but the little things count in truck construction. The tail lights in Jumbo trucks are mounted flush in the frame to prevent breakage. The spring Draw-Bar is another feature of Jumbo Trucks.

C. E. ALBRIGHT, Pacific Coast Manager
816 Balboa Bldg., San Francisco, Calif.

Pacific Coast Distributors

GATES-KELLY AUTOMOTIVE CO.,
Los Angeles, Calif.

F. B. RIVAS CO.,
816 Balboa Bldg., San Francisco, Calif.

MITCHELL, LEWIS & STAVER,
Portland, Oregon—Spokane, Wash.

MITCHELL MOTOR & SERVICE CO.,
Seattle, Wash.

Nelson Motor Truck Co.

Saginaw :: Michigan

JUMBO
The Complete Truck

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NEW MOTOR TRUCK ENGINES COMING.

Tom R. Smith, general sales manager of the Midwest Engine Co., Indianapolis, says engineers are feeling a psychic influence, transmitted to them by makers who have been made aware of the fact that repairmen well know that operators, stirred by pneumatic tire possibilities, have ripped the governors off their motor trucks.

Motor truck engines designed to go about so fast are going much faster. There must be better engines. Mr. Smith says the industry is not going to wait long for what it wants. We trust this is a promise as well as a warning, as Mr. Smith shows he knows what is needed—a new type of truck engine, able to deliver great power, at low speeds, though safely operable at high speeds as well; not only these, but—something never before expected of a truck engine—power at continuous high speed.

There's an avalanche of coin that will buy much more rolling this way, from the other side of the hill of endeavor. The roads are building, Mr. Smith. On with your new engines.

No Wonder Tom Snyder is Enthusiastic

Tom Snyder, chairman Highway Transport Committee, state of Indiana, spoke at the highway transport conference during the national motor truck show in New York. Based on experience, he said: "I may be a little overenthused about the motor truck and its coming service to society, but I truly believe it the greatest instrument of transportation evolved by man. It is the most immediate relief for car shortage, freight congestion in large industrial centers, limited terminal facilities, transportation and distribution of perishables; a new vital artery into every town and hamlet; a conserver of time and energy; in short, a new connecting link which will make more powerful, and thereby more productive, the current of activity throughout all industry."

Some reasons for Mr. Snyder's enthusiasm are the more than 2,000 well-made roadside markets along the principal highways of Indiana, whereby farmers get to consumers much that formerly was wasted because it matured too slowly to provide a profitable load to market at any given time; because the farmer never was sure of market conditions; and because a large proportion of fruits and vegetables mature when the farmer and his entire family are glued to the job and cannot get away. The roadside idea has solved all this. A sign indicates what the farmer has ready for market, and the wise rural express man does his part. He is more than a transporter. He is a commission broker; a jobber. He knows his market. The most successful rural express men operating out of Indianapolis the past summer were those who transported merchandise from jobber to small-town merchants and returned with foodstuffs from the farmer to the city grocer. No better distributing means in the world, says Tom Snyder.

SPEEDY TRANSPORTATION IN PNEUMATIC-TIRED TRUCKS.

The above illustration shows the type of 1-ton heavy duty Acason truck in the service of the Goodyear Tire & Rubber Co. This particular style is used by the Goodyear company in its operation of fleets. The pneumatic cord equipped Acason carries its load and is able to get around quickly. It is the type that will eventually travel with the fleets that will be in operation taking the place of freight cars.

Trailer Makers to Adopt a Slogan

A suitable slogan and emblem, to be used by the Trailer Manufacturers Association of America, and by individual trailer manufacturers, on stationery, in catalogs and other advertising, as well as on products, is to be adopted at the May meeting in Detroit. This was voted at the meeting held during the New York Show.

During the show meeting J. H. Fertig was elected president, succeeding W. E. Ferris. H. C. Fruehauf was re-elected first vice-president, and J. C. Endebrock as secretary-treasurer.

It was also voted that standardizing the load rating of semi-trailers and pole trailers is desirable, and the general manager was instructed to obtain all members' views as to the best method.

Trailer companies represented at the meeting were: Arcadia Trailer Corp., Newark, N. J., by J. H. Fertig; Detroit Trailer Co., Detroit, by W. R. Bonds and Lewis B. Moore; Fruehauf Trailer Co., Detroit, by H. C. Fruehauf and J. D. Rosenbaum; Wm. G. Hesse & Son Mfg. Co., Leavenworth, Kas., by H. W. Perry; Highway Trailer Co., Edgerton, Wis., by E. L. Moorman and Frank M. Lee; King Trailer Co., Ann Arbor, Mich., by H. F. Wardwell; F. P. Lyons Iron Works, Manchester, N. H., by J. A. Methot; Northway Trailercar Co., East Rochester, N. Y., by H. B. Wyeth; Ohio Trailer Co., Cleveland, by W. E. Ferris; Shadbolt Mfg. Co., Brooklyn, by W. O. Shadbolt; Trailmobile Co., Cincinnati, by J. C. Endebrock and Henry M. Wood; Warner Mfg. Co., Beloit, Wis., by Max Herrmann and M. A. Potter.

National Truck Reliability Run Will Be Success

The First National Motor Truck Reliability Contest, under the auspices of the Omaha Bee, promises to be a great success. At the national motor truck shows it received the endorsement of the leading manufacturers of motor trucks in America. Entry blanks, a prospectus, a tentative map of the route and a general outline of the rules for the contest were distributed generally to the manufacturers and their representatives at the shows. Limitation of entries to pneumatic-tire equipment was a matter of favorable comment.

Selden's Assistant Sales Manager Passes Away

E. A. Shelly, who for some time past has been assistant sales manager of the Selden Truck Corp., died at his home in Rochester, N. Y., on Monday, January 19, after a week's illness. Prior to becoming associated with the Selden organization Mr. Shelly was for a number of years connected with the Vim Motor Truck Co., Philadelphia. He leaves a wife and one child, a daughter eight years of age. Funeral services were held in Rochester and the body shipped to his old home in Wilkesbarre, Pa.

Kimball Joins Pierce Governor Co.

A. L. Kimball, formerly chief engineer of the Fulton Motor Truck Co., is now sales manager for the Pierce Governor Co., Anderson, Ind., having charge of the territory east of Indiana. Mr. Kimball is a man of wide experience in the automotive industry, having previously been employed as experimental engineer for the Hudson Motor Car Co., Chalmers Motor Car Co. and Dodge Bros. He is a graduate of the University of Michigan and a member of the Society of Automotive Engineers.

Standard Announces New 2½-Ton Model

Announcement is made of a new model Standard motor truck to be known as Model 76—2½-ton. The usual standardized units employed for the past ten years in the building of Standard motor trucks will be built in the new model, which will feature the new Timken 2½-ton axle. Solid tires are listed as regular equipment and pneumatics will be furnished upon specification. Tire sizes are as follows: Front, 36x4; rear, 36x7. Deliveries have already started on the new model.

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85% are Prospects for this Truck

IT IS best for the dealer because it is best for the USER. The model "48," 2-ton, worm-drive Dearborn will outsell any truck in its class on *points and performance.*

Facts incontestible—basic TRUTH is the foundation for the superiority of

DEARBORN TRUCKS

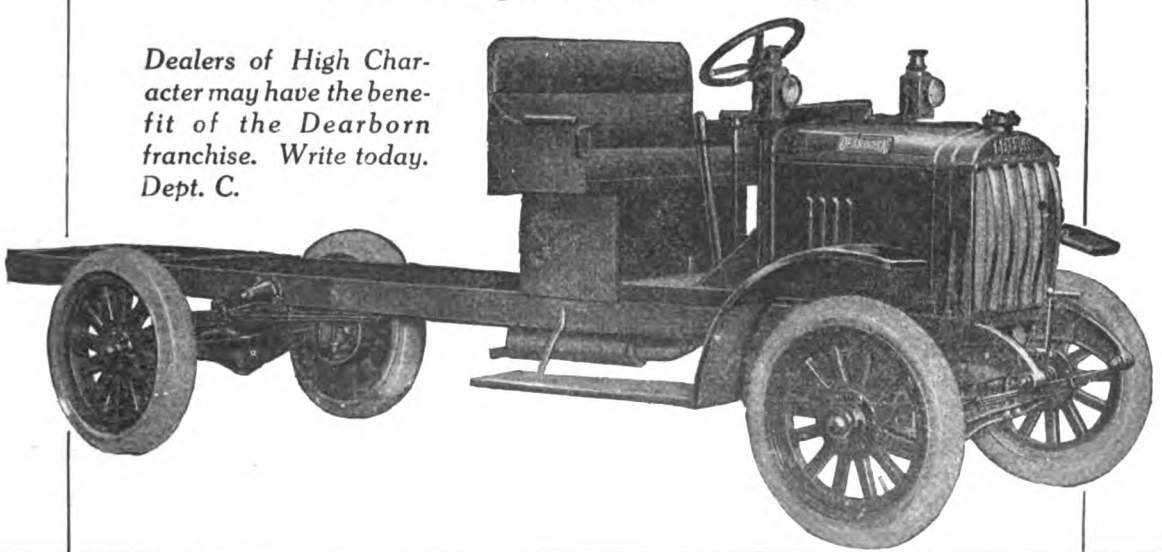
Scientifically designed, *light-weight*—super-quality steel—makes a Dearborn 500 to 2000 lbs. lighter than other worm-*drive trucks.*

The full, economical advantage of this light weight is realized by employing the World's Standard Working Units such as—Buda Motor, Bosch Magneto, Stromberg Carburetor, Stewart Vacuum Feed, Fuller Clutch and Transmission, Standard Worm-Drive Axle.

The Buda Motor's excess power is used for the load—not to pull excess truck weight. The result is The Dearborn uses less oil and gas than any truck in its class. It is *easier* on *tires*, and it has the highest *possible* average of daily performance. It gives the *World's* lowest hauling cost, and fills the need of 85% of all truck users.

The Dearborn Truck Company
2015 S. Michigan Avenue Chicago

Dealers of High Character may have the benefit of the Dearborn franchise. Write today. Dept. C.



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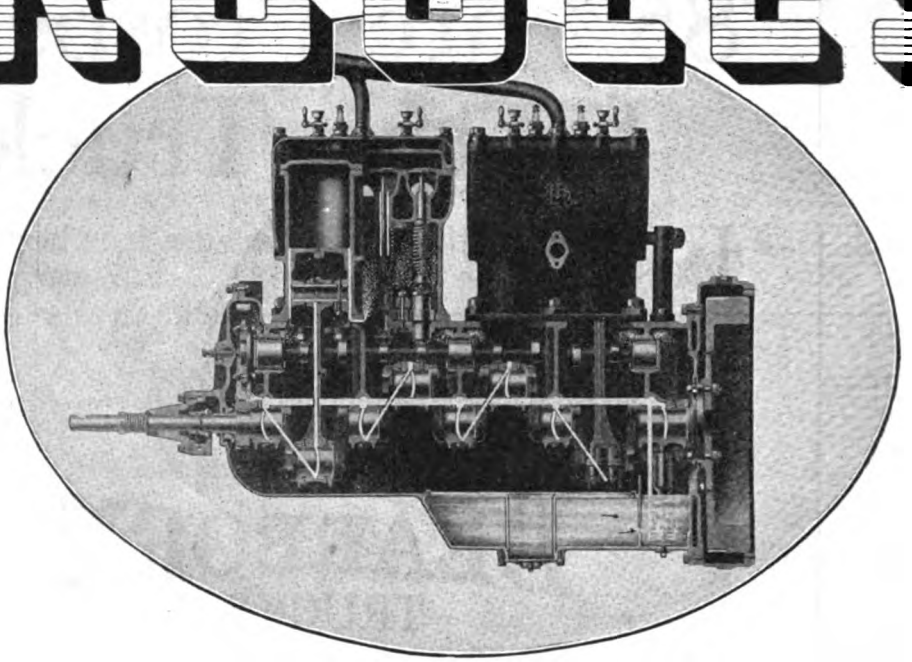
HERCULES

for Trucks and Tractors



The Oil is Forced to Every Bearing!

Because it is the only positive method to lead the lubricant to the points where bearing pressures are greatest.

Because it is the only method to insure that the undesirable heat generated by the friction of each bearing is carried away with the desirable rapidity.

Because it is the only positive method to control and regulate with that degree of accuracy necessary to insure every bearing having its full quota of oil, while positively preventing excessive oil consumption and consequent fouling of spark plugs.

Because the simple oil pressure gauge will at all times give the driver that confidence which can only come when he knows that each bearing is being properly supplied with oil.

See Hercules at the Chicago and New York Shows

In the Hercules design all this is accomplished without the added complications of separate oil pipes and connections by a simple fool-proof system of cast-in tubes and drilled oil ducts.

Remember that faulty lubrication takes its toll in trouble, time and money.

The Hercules Motor Mfg. Company
Canton Ohio

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Wilson dependable MOTOR TRUCKS

Why Do Motor Truck Dealers Make Money?

This is a very frank and important talk to automobile dealers, and those intending to enter the business, relative to the vital question of profits to be made and how to make them

THE established truck dealer who has gained wisdom through long experience knows how easy it is to sell a well advertised motor truck.

And he knows the hardships that come with trying to sell an unknown truck.
It is seldom, therefore, that you find the experitnced motor truck merchant contracting for an unadvertised and unknown account.

He does not want to do the pioneering. He does not want to put his time and resources back of an unknown product. When, for example, he tries to sell a customer the "Blank" truck, he does not want to hear the prospective buyer say: "The 'Blank' truck? I never heard of it!"

You old dealers know that this does not spell success. And you younger ones, and you who are thinking of going into the business, can gather a lesson from the older dealer's experience.

For the American buyer today does not absorb voluble promises and doubtful facts as he may have done in days of yore. He has learned something and he is influenced by, and guided to the door of, the truck maker who has sufficient faith in his product to come out boldly in great advertising channels and state his claims openly to the world—in such reputable publications that the very fact that they publish his claims is a substantial guarantee of their dependability.

The appearance of this advertisement marks the thirty-seventh year of the continuous existence of the J. C. Wilson Company as a manufacturer of heavy duty haulage vehicles —first horse-drawn and then motor-driven. For many years of this time we have been telling the public, through the medium of the great national publications, of the worth of Wilson motor truck construction and the dependability of Wilson truck service.

The result is that the public KNOWS Wilson trucks. In addition to their great mechanical worth they are an advertised asset to the dealer, they possess a GOOD-WILL VALUE which makes sales easier for him, and creates a greater re-sale value for the retail buyer.

The name "Wilson" as applied to motor trucks is so deeply imbedded in the public consciousness, so thoroughly intrenched in public favor, that sales (and re-sales) of Wilson trucks are infinitely easier to make than if we depended upon circulars and postal card campaigns to acquaint the public with our product.

There can be no question about this. What are the big selling passenger cars? What are the big selling soaps? What, even, if you please, are the big selling chewing gums? The answer writes itself, and you know it: They are the passenger car, the soaps, the chewing gums—AND THE MOTOR TRUCKS—whose makers come into the open and state their claims in the great journals of the world.

This is only good, sane sense. If you sell an advertised product you are not up against the continued, heart-breaking barrier of obscurity, of "I never heard of your truck."
It may be that some of you old dealers who read this are getting ready to take on the sale of motor trucks, or that some of you men in other lines of business are thinking of taking up the sale of trucks as a vocation. If you are we would like to hear from you. Perhaps your territory is still open.

Write us. There's money in the business, and it's a clean business—a business man's business.
Let us send you (free) a booklet we have prepared called "Money in Motor Trucks." It is interesting and instructive and will open up to you an avenue for clean profit-making that will be to you an industrial revelation.

1½, 2½, 3½ and 5 tons Capacity---All Worm Drive

J. C. WILSON COMPANY

DETROIT, U. S. A.

36th year

COMMERCIAL VEHICLE MANUFACTURERS

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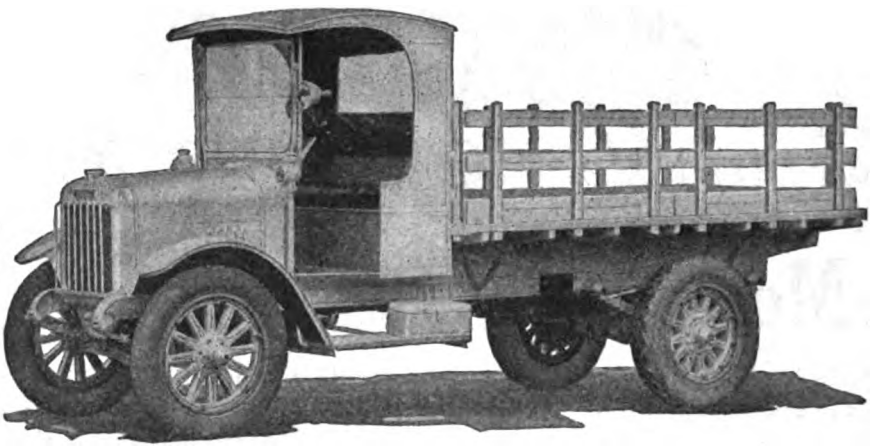
WOLVERINE

Some Good Dealers Territory is still open.



If interested, wire or write at once, as all territory will be covered very soon.

The Truck of Good Service

An up-to-date truck in every respect which will give 100% service to the owner. Fully equipped with electric starting and lighting system including a searchlight.

MANUFACTURED BY

AMERICAN COMMERCIAL CAR COMPANY

DETROIT, MICH.

Union Motor Truck Co. Votes New Stock

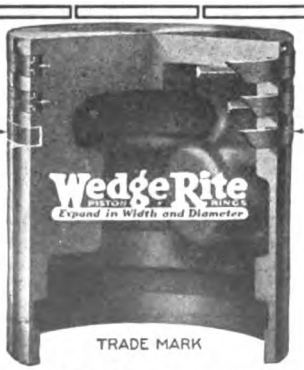
The Union Motor Truck Co. recently held its annual meeting in Bay City, Mich., and voted to issue $150,000 of first preferred stock, to finance a new factory building, instead of issuing bonds. The stock will be a first lien on property and probably will be retired serially, yearly. Much of the stock was subscribed for by present shareholders at the meeting. Indeed, none may be left to offer publicly. All directors were re-elected, and they re-elected the incumbent officers. The financial report showed an excellent condition.

Selden Truck in Oregon

The Selden truck is now represented in Oregon. The Butler Motor Car Co., of Portland, a new firm, has been appointed state distributor. The company is composed of Howard and J. W. Butler, formerly in the salmon packing business.

Eliminate Oil Pumping and Compression Leaks with—

WEDGE RITE PISTON RING CO. INC.



J. E. BENEDICT COMPANY
1212 South Figueroa Street Los Angeles, Cal.
Factory Representatives West of the Rockies

Association Adopts Ship-by-Truck Slogan

Ship-by-Truck, originated by H. S. Firestone, president of the Firestone Tire & Rubber Co., was officially adopted by the National Association of Motor Truck Sales Managers, at the Detroit meeting. This organization, which put on the national development tour of motor trucks last summer, is official representative of the motor truck industry. President J. E. Tracy, of the association, wrote Mr. Firestone that the three-word slogan and the design incorporating it offer the briefest possible presentation of the argument for the motor truck's utility.

Catalog of Standard Republic Bodies

The standard bodies made by the Republic Motor Truck Co., Inc., Alma, Mich., are very completely described in the company's latest catalog. Special bodies, such as dumpers, lumber jobs, fire and sprinkler apparatus, tank bodies, etc., are fully covered in another publication. A point often overlooked, but brought out through Theodore McManus, Inc., the advertising agents, is the advertising value of a properly designed, well mounted truck. The popularity of the Republic is denoted by the great enlargement of its body department.

City Discovers Truck Traffic Wears Streets

That motor truck traffic increases speed in delivery, therefore economy and additional profit in business, must be a fact in Redlands, Cal., else it would not be true that 50 per cent or more of supplies formerly sent to that city by rail now reach it by the more modern way. The phase of the fact that Redlands really notices is that the streets it provides are not on a par with the traffic, and so—tax the motor trucks in every city in which they operate, but, at any rate in Redlands, is the bright idea. The plan is: $25 a year for one truck, $40 for two, $50 for three; $10 for each additional, operated by any one concern.

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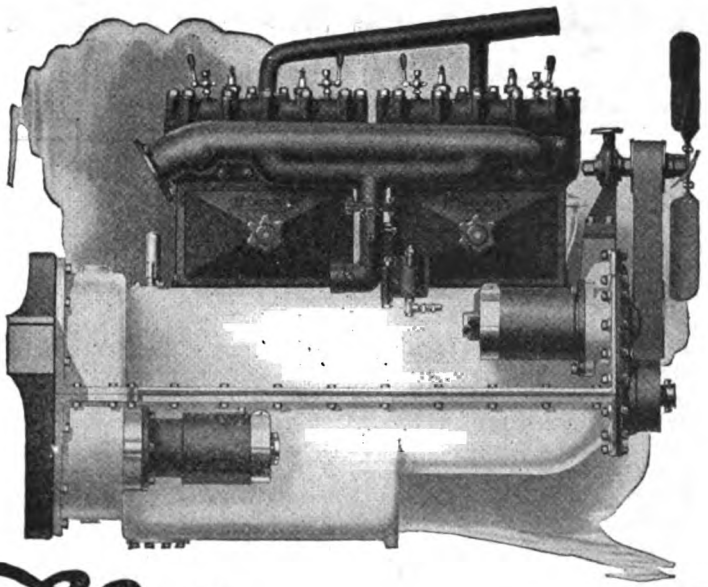

Wisconsin
CONSISTENT

For the *Better* Truck or Tractor

The better manufacturers put WISCONSIN Motors in their trucks and tractors because they know that the name "WISCONSIN" certifies the highest standards of construction. For motor building is chiefly a matter of standards and policies—cost plus care. Any maker can build a quality motor if he cares to pay a slightly higher price.

Built-in, consistent quality—ample power and durability—are the factors behind the WISCONSIN'S remarkable prestige among dealers and users everywhere.

WISCONSIN Motors are ready to run when they leave the shops. Every moving part is adjusted—every bearing run-in—every cylinder ground accurately to size—every piston fitted perfectly. Every motor is tested for power by an electric dynamometer. Their slightly higher initial cost, due to precise workmanship and rigid testing, is offset many times by their dependability, freedom from adjustments and elimination of costly "service expense."

Write today for specifications. Our engineers will be glad to assist you with your power plant problems.

WISCONSIN MOTOR MFG. CO.

Station A, Dept. 314 Milwaukee, Wis.

Pacific Coast Distributors:

EARL P. COOPER CO.
1310 So. Los Angeles St., Los Angeles, Cal.

W. F. McKENNEY
68 First Street, Portland, Ore.

CHANDLER-DUNLAP CO.
Seattle, Washington

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Oregon College Prepares Way for Tractor

Much of the growing popularity of tractors among the farmers of Oregon may be traced directly to the influence of the Oregon Agricultural College, one of the first to recognize the trend toward power machinery on the farm and which set out to enhance the usefulness of the tractor to the farmer by giving long and short courses in tractor selection, care, operation, adjustment and repair.

The short courses have been immensely popular. Farmers have come from the other side of the state to attend them. There are two kinds of these short courses, one lasting only a month and being repeated every month, for the benefit of farmers with very limited time to spare. This course concentrates on selection, care and operation of tractors, there being no time to specialize on repair work.

The other short course, of three months duration, is devoted almost entirely to repair and adjustment. Four men on the instructional staff assist Professor W. J. Gilmore, head of the farm mechanics department of the college.

Fifteen tractors have been loaned the farm mechanics department by various tractor firms for use in this important educational work.

Course in Tractors Costs a Dollar

A new idea to be used in the gas tractor short course at the Citrus Experiment Station, Riverside, Cal., February 22-28, is the booklet each student will be given, containing in condensed form all lecture material and directions in many operations involved in repairing tractors. Relieving students from taking notes, the plan enables them to give undivided attention to the charts, models and tractor parts used throughout the course. The course will consist of lectures, demonstrations and practice. The entire school will have two one-hour lectures daily. In the other six hours, groups of about 18 students will either operate or attend demonstrations of motor repairing, magneto finding and trouble finding, adjusting, etc. The course is limited to 180 students, over 18 years of age, and each must own, operate or be directly interested in tractors. Applications should be made to the Director of Citrus Experiment Station, Riverside, Cal. The only fee is $1. Rooms should be engaged in advance.

Production Increase in Horsepower Terms

The one most desirable rift in the economic cloud—the larger it is made the more quickly the rift in the economic lute will be mended—is the great production possibilities of farm tractors and auxiliary machinery. How much can be done in this direction—how quickly the tractor makes itself felt—is indicated by statistics which show that each 40 horsepower tractor does the work of 16 horses, every 75 horsepower tractor does as much as 40 horses could do.

Avery Factory Branches Installed

To better serve customers, the Avery Company, of Peoria, Ill., has installed branches in San Francisco and Los Angeles. The latter, in charge of W. W. Rainey, will distribute in Southern California, replacing the Avery Company of the Pacific Coast, a jobbing corporation. The idea is, more machines and parts to be kept in stock, and more prompt and better service to the company's patrons by factory-trained experts.

Will Not Recognize Large Tractor Demonstrations

No tractor demonstrations will be conducted during 1920 under the official direction of the tractor and thresher department of the National Implement and Vehicle Association. Nor will the association be officially connected with any of the regional demonstrations held during 1920 at Denver, Sacramento and Aberdeen.

Members of the association are at liberty to render their personal assistance and co-operation to dealers staging local demonstrations of the one-day type.

The California Tractor and Implement Association has set aside $12,000 for the purpose of organizing dealer associations throughout Northern California during 1920 and fostering local demonstrations under the auspices of these local associations. The association will employ a permanent secretary at an adequate salary, who will direct demonstrations and organize the associations of dealers.

New Officers of National Tractor Body

E. J. Gittins, of the J. I. Case Threshing Machine Co., is the new chairman of the tractor and threshing machine division of the National Implement and Vehicle Association. J. B. Bartholomew, former chairman, did not wish to continue. He is president of the Avery Company and spends about half his time in Southern California. G. P. Alexander, of the Aultman & Taylor Machinery Co., has been elected vice-chairman. E. G. Merwin, of Russell & Co., continues as secretary-treasurer. The new executive committee is composed of J. A. Everson, International Harvester Co., chairman; J. B. Bartholomew, Avery Company; E. J. Gittins, J. I. Case Threshing Machine Co.; Finley P. Mount, Advance-Rumely Thresher Co.; E. C. Merwin, Russell & Co.; H. P. Goodling, A. B. Farquhar Co.; George N. Peek, Moline Plow Co.; C. S. Brantingham, Emerson-Brantingham Implement Co.; Dent Parrett, Parrett Tractor Co.

Tractor Output of 1919 May be Doubled

It seems certain that production of tractors in 1920 will total over 300,000 and that at least 100,000 more will be made than in 1919. Some authorities believe the 1919 output will be doubled, as sales for spring delivery are in immense volume and several manufacturers are far oversold.

Production figures of the past are not absolutely accurate, not even those made for 1917 by J. F. Cook, while serving as national farm implement administrator. The figures are:

1909	2,300	1915	21,900
1910	4,500	1916	28,000
1911	7,400	1917	62,743
1912	11,400	1918	135,000
1913	7,400	1919	175,000
1914	10,400		

Cleveland Handling U. S. Motor Trucks

The W. L. Cleveland Company, Los Angeles, has been appointed Southern California distributor for U. S. motor trucks, by the United Motor Truck Co., Cincinnati. These trucks are of 1½, 2½, 3½ and 5-ton capacity.

Midwest Utilitor in So. Cal.

The Midwest Utilitor tractor, doing all the work performed by one horse, is now handled in Southern California by the Far West Sales Co., of Los Angeles.

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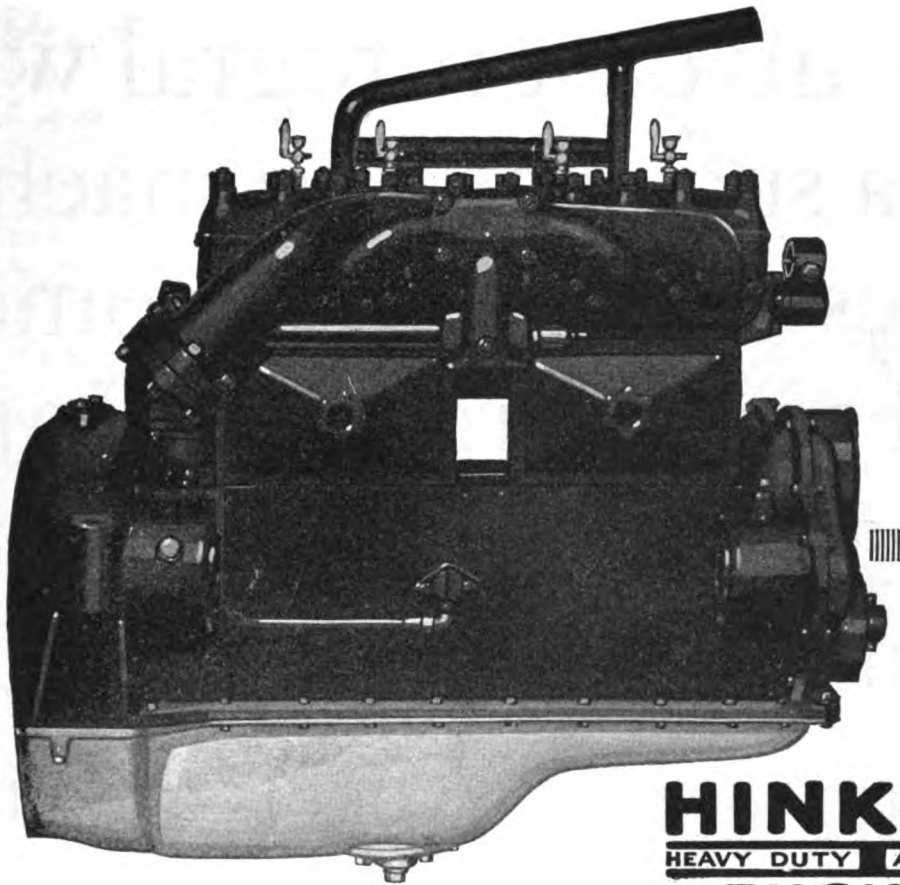


HINKLEY
HEAVY DUTY AUTOMOTIVE
ENGINES

Are Standard Equipment in the Latest Types of Such Trucks as—

1½ Tons

Paige — Duplex
Columbia — Patriot
Mapleleaf (Canadian)

1¾ Tons

Oneida

2½ Tons

Gramm-Bernstein — Oneida
U. S. — Patriot
Columbia — Mapleleaf (Canadian)

3½ Tons

Oneida — Patriot
U. S. — Mapleleaf (Canadian)
Gramm-Bernstein

5 Tons

Oneida — Mapleleaf (Canadian)

Exclusive Engine Equipment

Hinkley Heavy Duty Automotive Engines, furnished heretofore to the United States Government Alone, are today available for your purchase, and in a wide variety of sizes.

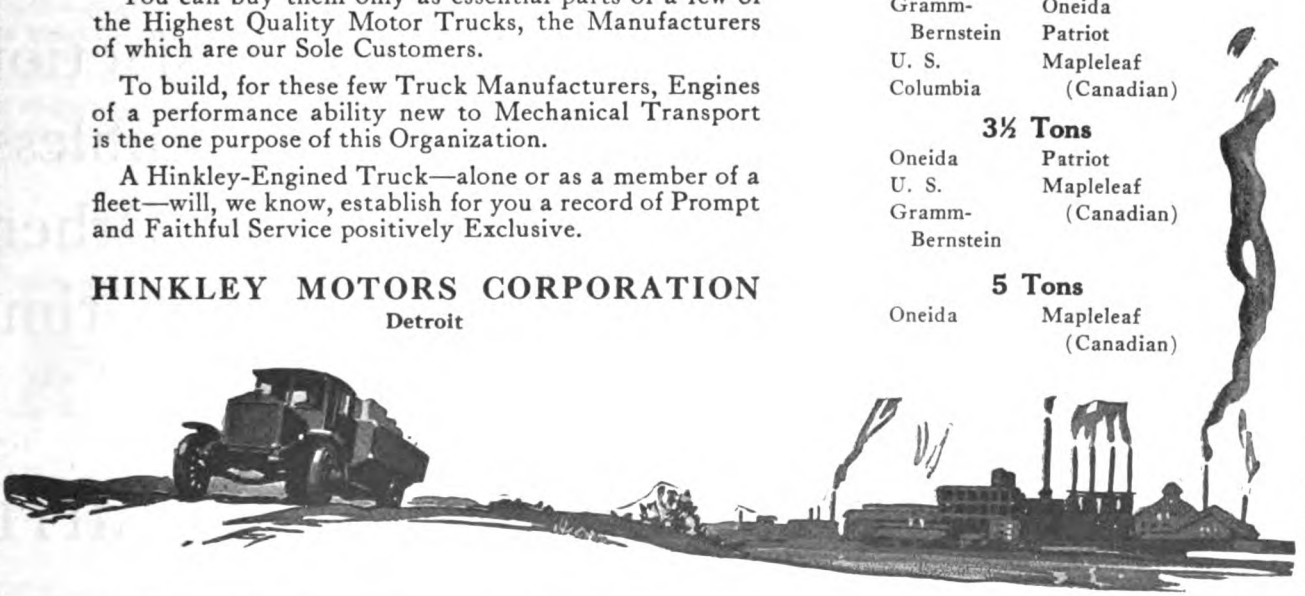
These Engines are Not sold at Retail.

You can buy them only as essential parts of a few of the Highest Quality Motor Trucks, the Manufacturers of which are our Sole Customers.

To build, for these few Truck Manufacturers, Engines of a performance ability new to Mechanical Transport is the one purpose of this Organization.

A Hinkley-Engined Truck—alone or as a member of a fleet—will, we know, establish for you a record of Prompt and Faithful Service positively Exclusive.

HINKLEY MOTORS CORPORATION
Detroit



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The hub cast integral wheel is not a success. The machined surfaces of the hub become distorted and bearings are injured through casting strain, tire pressure and road pounding.

Hub cast integral wheels are at most times very difficult to remove and put back in proper bearing adjustment. Never buy trucks so equipped. You will have lots of trouble.

SMITH WHEELS assure complete satisfaction at all times. SMITH WHEELS are hubless. Their design has always been the same. Others change with each new moon, and each time they are always "the best."

The public does not experiment with SMITH WHEELS. They are guaranteed *forever*.

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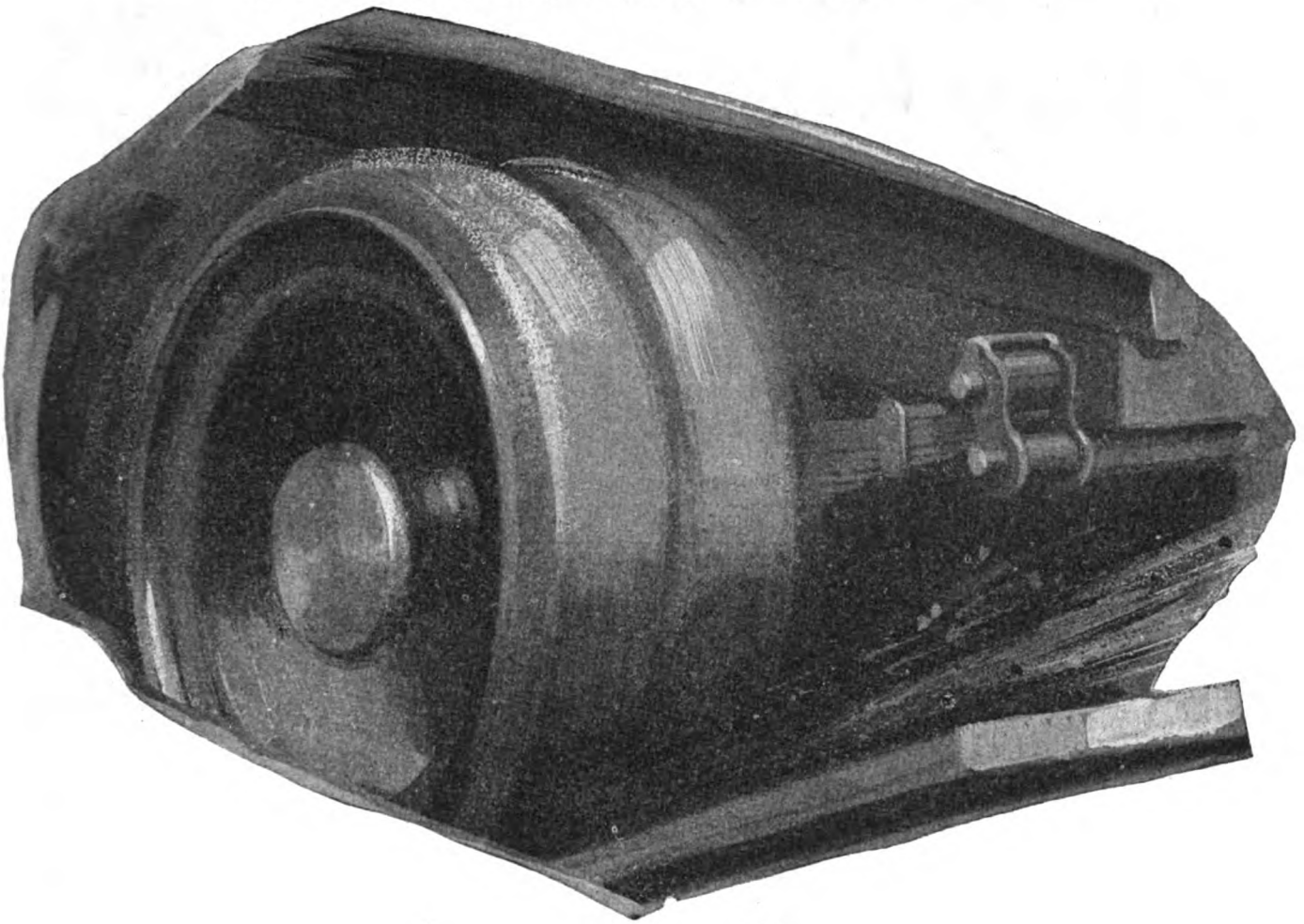
Powrlok in the Rear Axle



Stops Stalling

Powrlok actually does stop stalling and prevents skidding, because it *automatically* distributes the power to the rear wheels the logical way—in direct proportion to the traction or hold which the wheel has on the ground—instead of in indirect proportion as the ordinary differential does.

It supplies the power to the wheel that can use it instead of giving it to the wheel that wastes it in useless spinning.

Even conservative automobile engineers class it as one of the three or four greatest improvements made in motor cars within a decade. This is best proven by the fact that fifty manufacturers of all classes of automotive vehicles—passenger cars, trucks, tractors and industrial trucks—now use it as standard equipment.

Write for our new booklet entitled—"More Than a Differential."

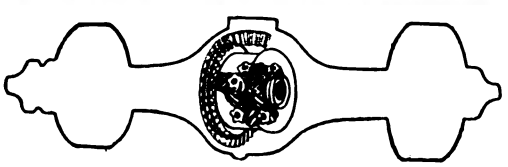
Specify Powrlok when you buy.

THE POWRLOK COMPANY, 1107 East 152nd Street, CLEVELAND, OHIO

FOREIGN REPRESENTATIVES:

The Powrlok Company, Ltd. Offices: 24 Maddox St. Regent St., London, England. 19 Avenue MacMahon, Paris, France

POWRLOK

"More than a  differential"

For Motor Trucks, Passenger Cars, Tractors, Industrial Trucks, Axles and Transmissions

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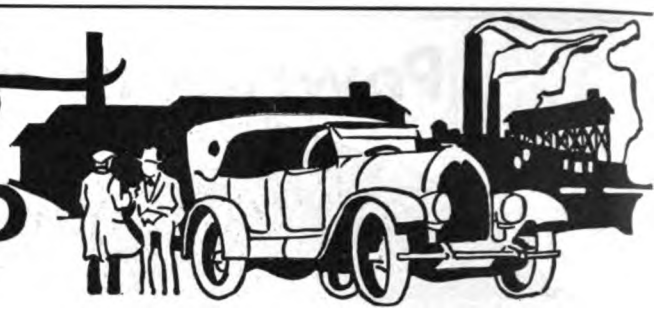
Trade Briefs & Factory Gossip



Trade News Via Detroit.

Oversold in 90 minutes—$8,000,000 worth of its stock, put on the market the other day by the Lincoln Motor Co., founded by the Leland brothers. The new company's capitalization includes 160,000 shares of "A" stock, par value $50, and 160,000 shares of "B" stock, no par value. The "A" bears an annual dividend of $5, cumulative; callable at $100. In addition, after $5 a share is paid on it in the form of "B" stock, the "A" stock shares equally with "B" on further dividends. It has qualified voting power and is preferred as to assets.

Henry M. Leland, president, and Wilfred C. Leland, vice-president, control through owning most of the "B" stock. William C. Nash is secretary and treasurer. These and James Royer, William H. Murphy, John Trix and John Emmert form the directorate.

The company's automobile has been ready for some time, but details are kept secret. The first-year output, it is said, will be 6,000; the second, 15,000, and the first-year profits are estimated at $2,000,000. A dealers' organization has been ready some time to market the car. The plant, on a 55-acre site in Detroit, and costing $8,000,000, was erected in record time when the United States entered the war. The company's total assets exceed $12,000,000; current assets, about $8,000,000—more than $7,000,000 in cash; current liabilities, about $500,000.

New Buick buildings in Flint are to cost about $7,500,000. Construction is under way. The program includes nine new buildings and additions to others. On the assembling plant in St. Louis $3,000,000 more is to be spent. These plans were announced following the directors' annual meeting, when H. H. Basset was elected general manager, succeeding Walter P. Chrysler.

Mr. Chrysler was given a testimonial dinner by 250 friends. K. Dallas Dort, president of the Dort Motor Car Co., presided. Associated with Mr. Chrysler in managing the new Willys interests in the East will be W. W. Mountain.

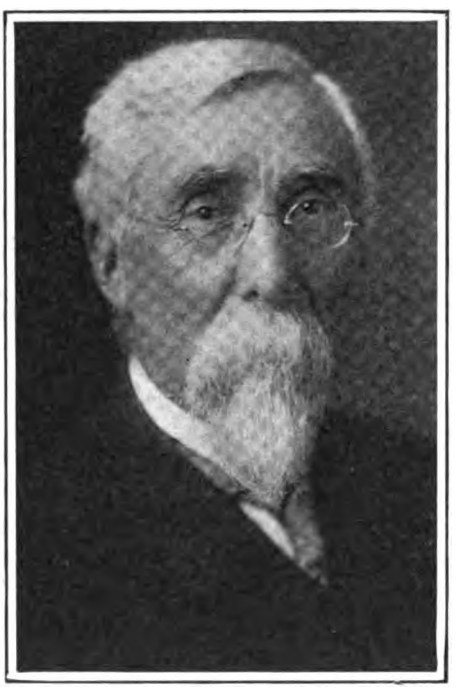
The Friend Motor Corp., headed by Otis Friend of New York, takes over Olympian Motors Co., Pontiac, assumes its obligations to $250,000, and, with some changes, will continue to produce the Olympian. Olympian stockholders receive share for share.

The Detroit Automobile Show, February 14-21, is certain to eclipse all predecessors.

Talk of a split between Ford and the U. S. Steel Corp. is quieted by the announcement that Ford will give it orders for $15,000,000 worth of steel.

Hugh Chalmers will leave Detroit February 5 for Pasadena, Cal., to remain during the winter and finish recuperation after his recent serious illness. Mrs. Chalmers will be with him.

The New Haven Iron Works, manufacturing gray iron castings at New Haven, Mich., has been purchased by F. J. McCracken, formerly of the Penn-Bridge and Westinghouse Co.



HENRY M. LELAND,
President of the Lincoln Motor Co.,
Detroit, Mich.

B. B. Holt, Detroit, will supervise sales.

H. S. Church, former truck engineer of Packard, now is chief engineer of the reorganized Locomobile Co. of America, to be called the Locomobile Co., and of which E. S. Hare will be president.

Raymond S. Willis now is acting advertising manager of the United States Tire Co., R. W. Ashcroft having resigned.

W. J. McAneny, of the Hudson Motor Car Co., recently left Detroit for California.

Frank J. Mooney, who for many years was Hupp Motor Car Co. advertising manager and who has been associated with the Theodore M. McManus, Inc., advertising agency in Detroit, has joined Walter M. Zimmer Co., of the same city.

R. C. Hupp, known for his work in the Hupp Motor Car Co., the R-C-H Corp. and the Monarch Automobile Co., is preparing to manufacture a new automobile, probably in the East, as soon as he decides whether it shall be a four or a six.

W. J. Cleary has relinquished his post as assistant to Fred Wade, purchasing agent for the Studebaker Corp., and gone to Elizabeth, N. J., as director of purchases for the new Willys Corporation.

In 1919, Detroit automobile thefts totaled 3,482; total valuation, $3,165,000; recovered, 2,529 belonging to Detroit residents, 180 for other cities. Stolen tires, lamps, tools, robes, etc., were valued at $102,870; recovered, $42,217 worth. Automobile thefts caused 710 arrests on grand larceny charges; convictions, 145; acquittals, 10.

L. J. Ollier, vice president of Studebaker, rounding the world with Mrs. Ollier, will sail from Australia for South Africa and return home in June. He has taken more foreign orders than the factory can fill in a year, President Erskine announces.

Many distributors who were unable to secure lines either from exhibitors at the shows or hotels in New York are making rounds of the factories for the same purpose.

Californians at the New York automobile show said used cars, not too old, were selling on the Coast for nearly list prices.

Sid Black, who once earned over $100,000 a year in Europe in bicycle trick riding, and who later was Chandler sales manager, is now vice president of the Cleveland Automobile Co., offshoot of the Chandler company.

* * *

Fisher Heads Buda Sales.

R. B. Fisher has been appointed general sales manager of the Buda Co., of Harvey, Ill., to direct all domestic and foreign sales and advertising. John P. Mahoney continues as sales manager of the engine division, and S. Gordon Hyde, advertising manager, these and other departments being under Fisher's direction.

* * *

Build Amco Here for Over There.

The Amco will be built in this country by the American Motors Co., Inc., by American methods of quantity production, so as to give foreign buyers, at lower cost than by buying their home products, what they want; what their environments and usages call for.

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GILL

The Perfect One Piece Piston Ring

This is a picture of "Mac." He is a corking good mechanic and a great booster for the Gill Piston Ring. "Mac" says you only have to show a motorist a Gill Ring to sell it and thousands of dealers all over the country have found this true to the advantage of their business.

What is the reason for this "Gill Enthusiasm"?

Look at the double step, interlocking joint and you will see for yourself. It allows an expansion of from $1/8$" to $3/16$" before any loss of compression occurs. In addition Gill Rings are made from single piece castings of special fine gray iron and machined to absolute accuracy. The easiest ring on the market to install, the easiest ring on the market to sell.

Send for the new Gill Piston Ring Size Directory, complete, convenient and full of just the information you need. It is free to the trade.

Dealers—Ask your jobbers about them
Jobbers—Write to us for information

The Gill Manufacturing Company
351 West 59th Street, Chicago, Illinois

Sole Foreign Agents:
AUTOMOTIVE PRODUCTS CORPORATION
Woolworth Building, New York, N. Y.

Gill Piston Ring Co.
803 Van Ness Ave.,
San Francisco, Cal.

Pacific Coast Branches:
Gill Piston Ring & Sales Co.
1522 S. Grand Ave.,
Los Angeles, Cal.

Gill Piston Ring Co.
723 E. Pike St., Seattle, Wash.

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To Increase Efficiency

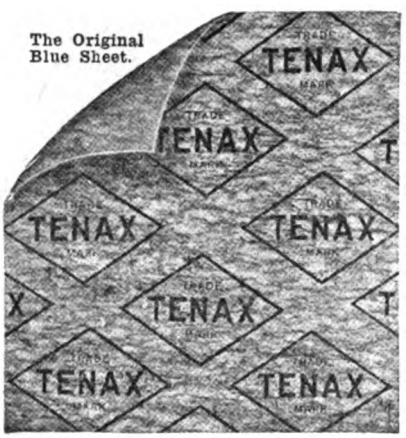
And Reduce Costs—In Your Own Business

Here is one step you **can** take right now to make your repair work better and more permanent—to save time and money for your own business. Eliminate low-grade materials and makeshifts. Supply standard suitable materials to your mechanics. Thousands of shops have already done this. Thousands of owners are using the famous products of the Advance Packing & Supply Co. Look carefully over these selections now. See whether we can't also offer valuable suggestions to you.

How Many of These Aids Can You Use?

Each has its own definite place in your shop. Each will be a distinct economy for you.

TRADE TENAX MARK



Tenax—The Old Standby.

Get this wonderful Compressed Asbestos Sheet Packing. TENAX is an ideal packing for any joint—permanent whether subjected to gas engine exhaust, cylinder explosions, acid, alkali, super-heated steam or any other active agent. Can't burn, rot or squeeze out and needs no following up. Preferred by the finest engineers and sold by the name "TENAX" for twenty years. Comes in sheets 50x50 inches. Thickness 1/32 to 1/8 inch, inclusive. Made also in 1/64 inch thickness, black graphited sheet only.

Pack with TENAX and forget the joint forever.

Adpasco Treated Gasket Paper

TRADE ADPASCO TREATED GASKET PAPER MARK

Adpasco—A Gasket Paper For Every Use.

A specially treated gasket paper—firm, waterproof and oilproof, made for every use except in contact with extreme heat. Adpasco Treated Gasket Paper is efficient and dependable. Supplies a need—means a saving. Have ADPASCO handy for your mechanics to use—save your TENAX for contact with extreme heat. Because of its fine quality and reasonable price ADPASCO has found its way along with TENAX into thousands of shops. Sheets 56x50 inches, weight approximately 12 ounces per sheet. Get samples and prices NOW.

Advance Clutch Facings

are a good buy for all types of multiple disc clutches. Made in all standard sizes. Never equaled for long hard wear.

Gaskets Die Cut to any Shape

from Tenax Adpasco Treated Gasket Paper or any of the other sheet packages we supply. Send in blue prints or templates for prices and samples.

Lakewood Belt Hooks

—For fastening and repairing leather or fabric fan belts. Rapid and permanent—silent-running, correctly shaped. Made in two sizes (same price for either)—the ⅝ in. size will handle ⅝ in., ¾ in. or ⅞ in. flat belting; the 1 in. size will handle 1 in., 1⅛ in. or 1¼ in. belts; for 1½ in. belt use one each of the ⅝ in. and 1 in. fasteners lined up alongside each other; for a 2 in. belt use two of the 1 in.

Finished on attractive "stand up" display card. Retail at good profit.

For repairing a broken belt, shortening an old one, or making a new belt, LAKEWOOD is the best.

Your Jobber Can Supply You—If Not Write Direct To Us.

Ask your jobber for the Advance Packing & Supply Co. line—get our prices and samples. See for yourself the true economy. If your jobber can't supply you, write direct to us for prices and small samples and mention your favorite jobber.

Jobber: If you are not now handling our line to your trade, write us at once. Help them enjoy the saving and convenience of our splendid products.

Advance Packing & Supply Co. 17 N. Franklin St., Chicago

ALLIED INDUSTRIES, INC., Pacific Coast Representatives

283 Minna St., San Francisco, Cal.; 340 Azusa St., Los Angeles, Cal.; 1252 First Ave., So. Seattle, Wash.

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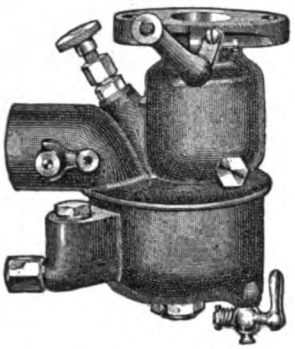

Made for Maxwell Cars

KINGSTON CARBURETORS

THE KINGSTON Company, oldest and largest builder of carburetors in America, has perfected a special carburetor for Maxwell cars. The Maxwell Special is simple, staunch, flexible and easily controlled. It will get the last atom of power from your gas. It will operate smoothly, easily, dependably. If you have never known the complete satisfaction in having a carburetor that meets every demand, all the time, in good conditions and in bad, investigate this special Maxwell Kingston. ¶ It has been built for the Maxwell Owner. It will solve, once and for all, his carburetor problems. It is backed by the strongest guarantee that we know how to make.

TO MAXWELL OWNERS—The price of this super carburetor with hot-air stove complete is $11.00. If your dealer can't supply you send order to us direct.

TO DEALERS—Write us at once for special proposition.

Western Representative: **FRED L. HOUSTON, 1235 Van Ness Avenue, San Francisco.**

BYRNE, KINGSTON & CO., Kokomo, Indiana, U.S.A.

BRANCHES: New York City, 1733 Broadway; Chicago, 1430 Michigan Avenue; Detroit, 870 Woodward Avenue; San Francisco, 1235 Van Ness Avenue; Boston, 15 Jersey Street.

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Commercial Auto Body Co. Expands.

One of the important body-building plants of the country is in practically the country's center, in St. Louis, Mo. It is that of the Commercial Auto Body Co., which has expanded by taking over the plant of the St. Louis Mfg. Corp., a General Motors subsidiary, in a $200,000 deal. The Commercial company did a business the past year of $300,000 and for three years has made bodies for the Chevrolet plant in St. Louis. The Commercial officers are: H. F. Cartwright, president; former Senator X. P. Wilfley, vice-president; M. E. Cartwright, secretary. J. G. Schermann is sales manager.

* * *

McMillan Now General Sales Head.

A. G. McMillan has been appointed general sales manager of the Automobile Service Station Equipment division of the Fairbanks Co., having previously been eastern sales manager. The change adds sales in the Far West to his responsibilities. His headquarters will be in New York. H. B. Garvey, who formerly handled Western sales from Chicago, has resigned.

* * *

Ben Koether Changes Base.

B. G. Koether began with the Hyatt Roller Bearing Co., Harrison, N. J., as accountant. Soon he became purchasing agent, then assistant sales manager. In time he was sent to Detroit as sales manager, then as head of the motor bearings division. After having been there ten years, and after eighteen years of untiring effort, henceforth he will see Detroit monthly, but his main task will be as vice-president and head of the entire sales and advertising departments, and with headquarters in Harrison.

During his ten years in Detroit, the motor bearings division sales increased tenfold. Yet he found time to woo the literary muse, in a quaintly original way which won him national fame, to-wit, as editor of the "Quieterion," the company's publication. Mr. Koether's popularity in Detroit and elsewhere is the real thing. He is a member of the Detroit Athletic Club, Players Club, Detroit Board of Commerce, and the Detroit section of the Society of Automotive Engineers.

B. G. (BEN) KOETHER,
Vice-President in Charge of Sales and Advertising, Hyatt Roller Bearing Co., and Editor "Quieterion."

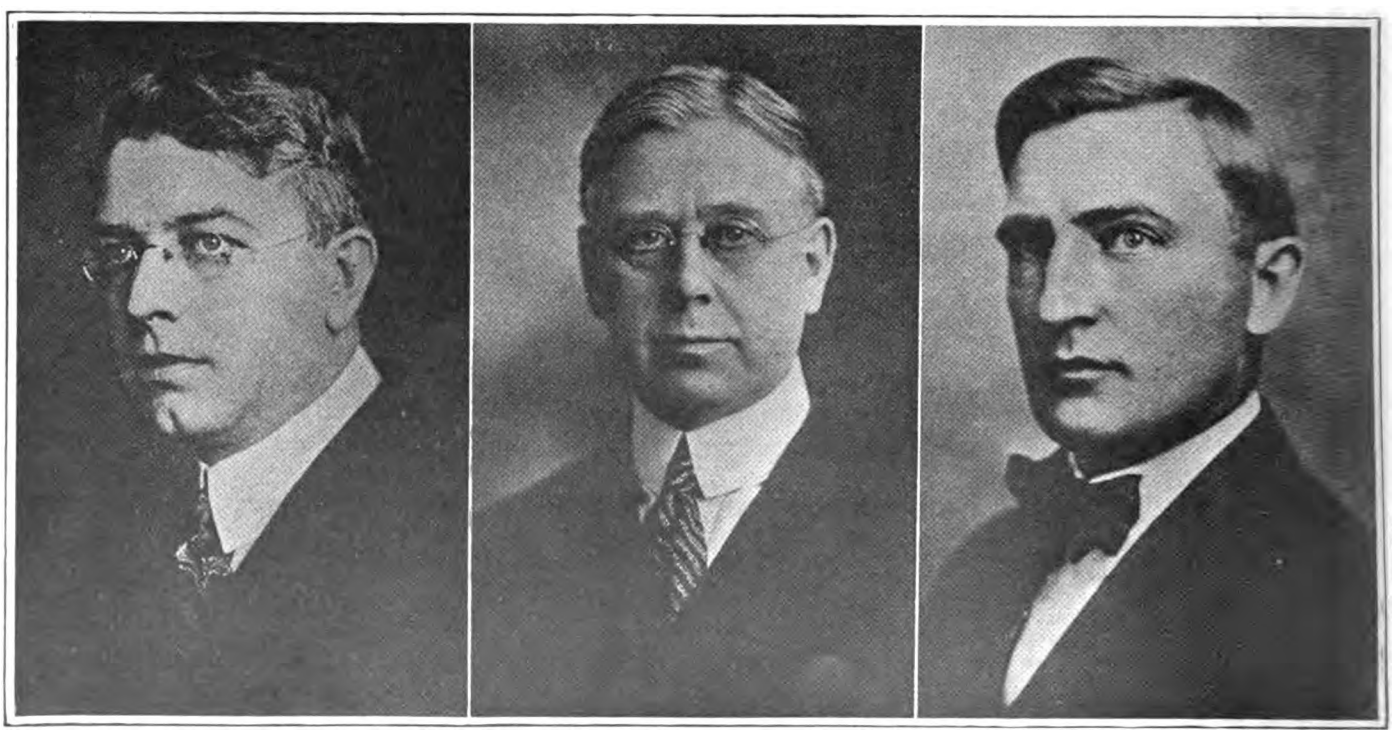
Firestone 20 Per Cent Increase.

Thousands of employe stockholders bulged and overflowed the clubhouse at Firestone Park, Akron, O., for the annual meeting of the Firestone Tire & Rubber Co., and to elect directors. The company's remarkable showing for the year ending October 31 was: sales, $91,078,513.70, being 20 per cent more than in the previous year; profit, $9,306,978.19, of which $2,597,787.30 was dividends, the balance surplus, subject to income and profits tax for the year. The present year's sales are at the rate of $150,000,000 a year. Assets total $73,753,598.

Directors elected were H. S. Firestone, A. C. Miller, L. E. Sisler, S. G. Carkuff, J. C. Robertson, J. W. Thomas, Harvey S. Firestone, Jr., A. G. Partridge, C. A. Meyers, T. Clements. They re-elected old officers and created three new vice-presidents—A. G. Partridge, J. W. Thomas and Thomas Clements, in charge, respectively, of sales, manufacturing and offices and purchases. The re-elected officers: H. S. Firestone, president; A. C. Miller, vice-president and general counsel; S. G. Carkuff, secretary; J. G. Robertson, treasurer.

A chastely printed and bound book, "Things that Interest Firestone Shareholders," contains general and Firestone statistics and facts which fully measure up to the title and the fact that Firestone uses about 10 per cent of the world's rubber. A back-cover pocket contains a world map showing sources of rubber; impressive factory and Firestone Park views; and other data.

PACIFIC SHOW NUMBER FEBRUARY 15TH.



A. G. PARTRIDGE, V.-P. Charge of Sales — THOMAS CLEMENTS, V.-P. Charge of Purchases. — J. W. THOMAS, V.-P. Charge of Mfg.

THREE NEW VICE-PRESIDENTS ELECTED AT THE RECENT ANNUAL MEETING OF THE FIRESTONE TIRE & RUBBER COMPANY.

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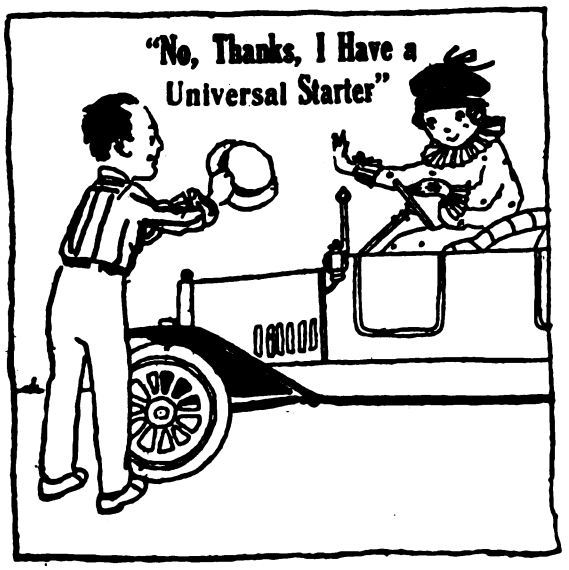
"Do You Still Crank Your Ford?"

—Do you still wade 'round in the mud on rainy days to get your car started?

—If you stop for a moment and kill your engine, do you still have to get out and wind her up?

—Do you think it necessary to be a slave to the crank?

"Whew, Wish I Had One!"



Thousands of Others Have Quit—Why Not You?

Thousands of other Ford owners have ended their cranking careers; they now step into their cars, **USE THE UNIVERSAL STARTER** and are away in less time than it now takes you to pull the priming wire on your Ford, and they don't run the risk of a broken arm or a sprained wrist.

Can Be Installed in 30 Minutes

Installation harmless to your car. Made of drop forged steel, and not a penny of upkeep in sight. A child can operate it in perfect safety. Back-firing can neither harm driver nor starter, protected by our automatic release.

"NEW UNIVERSAL STARTER"

Guaranteed for the Life of Your Car

$29.50

Including Foot Primer and Hot Shot Battery

Sold on a Positive Money-Back Guarantee

Guaranteed to work perfectly as long as your Ford will run. This guarantees the whole starter or any part of it. It's sold on a money-back trial. If it is not perfectly satisfactory we'll take it off your car and refund the purchase price. We know that's a strong guarantee, but also know that the Universal is perfect. Every part of it drop forged steel, and experience has proved that it will withstand the most severe abuse. It's absolutely fool-proof. Don't confuse the "Universal Starter" with others you have seen for sale. This is its first appearance in your territory. You must see it demonstrated to appreciate it. At the price this starter is offered you can within a short while save the cost of Universal Starter in gasoline and oil wasted in letting your engine run. Guaranteed to start any FORD that will crank. Demonstration stores are now located in most of the important cities in the United States and the territory in most of the States has already been sold. Counties in your territory may be closed any day. ACT NOW.

Live Agents Wanted!

Be Our Agent—Make Good Money Selling Our Universal Starter

The Universal sells itself. If you want a proposition that will bring unusually big returns for a nominal investment, write or wire, and preferably see us NOW for agency in your city, county or section. Some choice territory still open in Canada, U. S. and Mexico.

Universal Starter Company

Toronto :: Canada

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John Dodge

On January 18, flags on public buildings in Detroit were at half-mast—a tribute to John Dodge, former country boy, who with his brother Horace built the first bicycle ever built in Niles, Mich., and who, with his brother, was part and parcel of the evolution of the automobile industry, including the development of the Ford and, later, of the Dodge Brothers car.

As early as 7 a. m., an endless stream of citizens from all walks of life visited the Dodge home in Detroit to pay their last respects. Many city officials attended the funeral.

Mr. Dodge died at the Ritz-Carlton in New York, January 14, with Mrs. Dodge at his bedside. In a nearby room was Horace F. Dodge, stricken with pneumonia but recovering. Both became ill January 7, after having attended the N.A.A.C. banquet the preceding night.

John Dodge was born 54 years ago, in Niles, Mich., where his father was a machinist and ironworker. Both sons learned the machinist trade after leaving school. After apprenticeship, they worked in various Michigan cities, finally opening a small bicycle shop in Windsor, when that business was at its crest. Then they moved their business to Detroit. They opened a machine shope on Monroe avenue. Machinery taken in part payment of a debt gave them their start. They employed eleven men.

They began study of the internal combustion engine. Henry Ford,

developing a motor, had some work done by them. They discussed. Ford wanted to organize a company to manufacture automobiles. The Dodges were Scotch and conservative. Finally they took $5,000 worth of stock in 1902, payable from profits on 650 chassis they had contracted to build for Ford.

That was the foundation of the great Dodge fortune. As Detroit developed, they took large contracts for making automobile parts —became overwhelmed with work. A large modern shop was erected at Hamtramck and became one of the largest in America.

In 1914 came the Dodge Brothers car, built in a huge addition to the Hamtramck plant. There was a flood of orders. The plant started with 20 acres of floor space. Now 90 acres are occupied and more than 425,000 automobiles have been built.

Withdrawal of the Dodges from the Ford organization was due to differences of opinion. In 1918 the question of passed dividends led into the courts and legislature. The Dodges won. Last summer Ford bought out their holdings at a figure said to be $12,500,000 to each—compare it with the $5,000 invested by both eighteen years ago.

During the war, army automobiles, gun carriages and munitions were produced in the Dodge plant.

John Dodge had many financial interests. The Dodge Realty Co. had vast holdings, improved and unimproved, in Detroit. The brothers invested heavily in lands outside the city. As the city grew toward these lands, profits came. John Dodge also was a bank director. His only political office was in 1915, on the street railway commission, on which he served until the commission's plan lost at the polls.

He is survived by his brother, his second wife, a sister and five children—Mrs. W. J. Gray, Jr., Miss Isabelle Dodge, John Dodge, Jr., Frances Matilda, five years old, and Daniel George, two years old.

Miller Tire School's Success.

The product of the Miller Rubber Co.'s tire repair school in Akron has averaged 35 graduates monthly since August. The capacity of the school is to be doubled. Students are from nearly every state. In September three were from California. The average man can complete the course in a month. None gets a diploma until he is fit.

General Sales Manager Millhoff, of the Miller Rubber Co., believes the time approaches when it will be practically as necessary for the tire man to produce proof of training and study, under competent authority, as it is for the dentist, doctor or lawyer.

* * *

Took 1,600,000 Trees to Produce.

A 53-car train brought to the Goodyear factory a $4,412,200 load of 7,916,000 pounds of rubber, enough for 700,000 tires. It came 10,000 miles, by human, marine and railroad transportation. It equaled a year's production from 1,600,000 trees, or the yield of 16,000 acres of plantation.

Goodyear Relief Plan Popular.

Many corporations inquire of Goodyear as to its relief work among its 25,000 employes in Akron. Of these, more than 15,000 are in the relief insurance association. For $6 a year they have a $1000 policy, receiving $8 weekly when hurt or ill. The policy increases $500 annually, without extra cost till it reaches $3000. The women's branch has 1300 members. In the latter half of 1919, $12,000 was paid for deaths and $11,988 for accidents and sickness. Over 7000 employes joined in the last five months in 1919.

* * *

Liberty President's Career, Briefed.

Horatio Alger would find a suitable exercise for his talents in writing up the career of Percy Owen, President of the Liberty Motor Car Co., Detroit. Starting at the mechanic's bench, he became a racing driver, a salesman, a dealer, then distributor, afterwards a factory sales executive, vice-president, and now heads a company that has made remarkable business progress in three years.

Stanwood Rubber in Good Shape.

A man who compares, knows. C. E. Barker, president of the Stanwood Rubber Co., sent a New Year's letter to the board of directors. It contained comparisons of interest concerning the factory in Elizabeth, N. J. One was that its reconstruction today would cost a third more than its present book value, let alone its cost when built. Labor then was 60 cents an hour—now $1.25; manual labor then 45 cents—now 87½; and of course materials have aviated. The plant being in fine shape, and installing of modern machinery and equipment rapidly being completed, production most capable and the selling organization a very efficient unit, including the eminently fit and experienced men in the branches all is reflected in a splendid note of optimism in Mr. Barker's letter.

* * *

Ripberger Becomes Timken Engineer.

A. G. Ripberger, formerly of the engineering staff of the Illinois Steel Co. Gary, Ind., has become chief engineer for the steel and tube department of the Timken Roller Bearing Co.

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They'll Ask For "Gemco" Many Times This Spring

Are you ready for the March and April demand for Gemco automobile supplies and bumpers? Most every motorist who has not bought a new car is going to add comforts and conveniences to his old one.

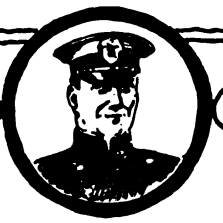
When an experienced motorist thinks of bumpers, repair parts or handy Ford devices, he just naturally thinks of the name

Gemco MILWAUKEE

More Gemco Bumpers are in use today than any other kind. They are used everywhere on all makes of cars. Gemco Bumpers and supplies are the last word in correct design, finest materials and workmanship, and dependable service. Thousands of motorists know that "IF IT'S GEMCO, IT'S GOOD."

Write today for 1920 Gemco catalog, cross-indexed for every make of car—a handbook of the newest and most convenient auto supplies on the market.

GEMCO MFG. CO.
725 So. Pierce St. :: Milwaukee, Wis., U. S. A.



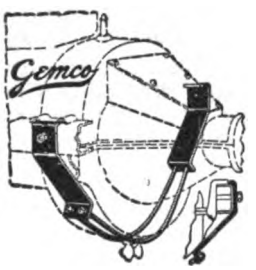
Jem Coe,
the Traffic Cop Recommends—

SPRING CHANNEL BUMPER

The neatness of the Channel Bar combined with the strength of Curved Spring Brackets. Fits standard cars, front and rear. Bumper bar is 2-inch channel. Retail prices: Nickel Finish, $11.00; Black Finish, $10.00.

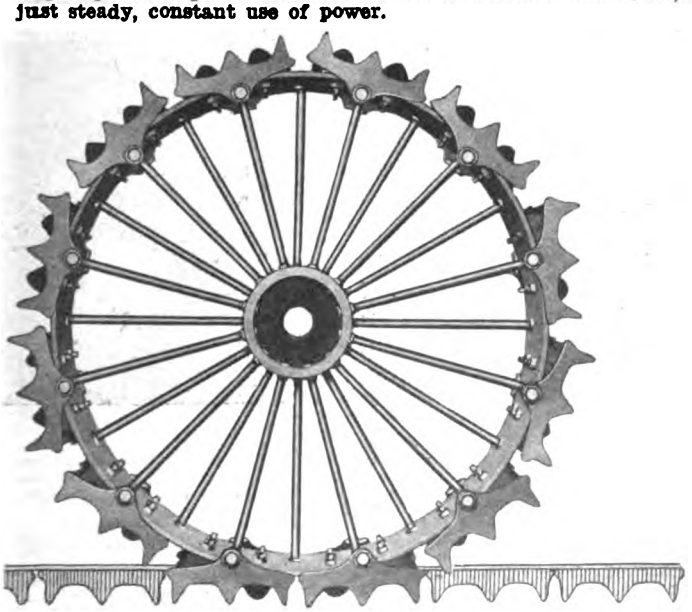
CRANK CASE SUPPORT

for Ford cars, all models. A clamping truss support that holds the crank case arms firmly together. Either repairs or prevents a break. Applies in a few minutes—outlasts the Ford. Retail price, $2.50.



GRID-IRON-GRIPS FOR TRACTOR WHEELS

are meeting with such strong success that they prove the need and benefit of better Tractor Traction. Every atom of engine power is put to work under all kinds of soil conditions, no back-slipping, sliding or skidding on slopes or hills, just steady, constant use of power.



Nehawka, Neb.

Grid-Iron-Grip Company,
Rock Island, Ill.

Gentlemen:—Attention L. E. Slauson, Pres.—

In reply to yours of the 22nd inst., the next morning after you left, I pulled through the mud 10 inches deep for one-half mile with my 10-20 Titan Tractor equipped with Grid-Iron-Grips, to pull a buzz saw for a neighbor. I arrived before they had their teams out to come and pull my Tractor over. It would have done you good had you seen the look on their faces. They asked, "How did you make it?" I told them I had tire chains on and didn't need to stop for mud.

I am convinced beyond a doubt that it is the best investment a man can put on a wheel tractor.

Very truly yours,
F. C. SCHOMAKER.

Write for Illustrated Literature Showing the Grips in Use Under Various Conditions.

GRID-IRON-GRIP COMPANY
ROCK ISLAND ILLINOIS

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SCORED CYLINDERS

Repaired by **"Lawrence Patent Process"** with Silver-Nickel Alloy, fused electrically. No warping or enlarging of bore. Same piston and rings fit. All work absolutely guaranteed. Reshipped 24 hours after received. Endorsed by all manufacturers. Also burnt and oil scores repaired. Plants in all principal cities.

Established 1862
L. LAWRENCE & CO.

SAN FRANCISCO, 116 Hyde St. — LOS ANGELES, 1030 South Grand Ave.

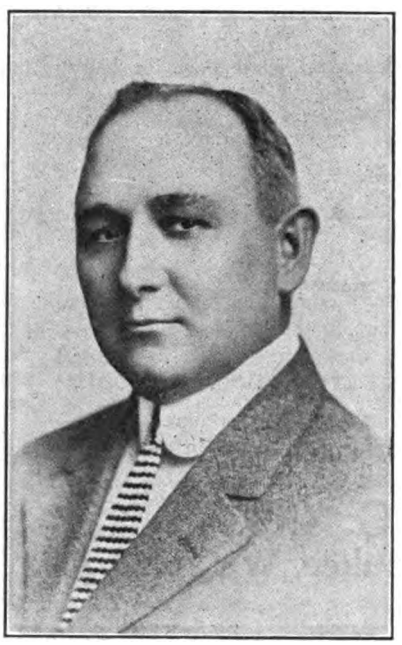
All infringers will be prosecuted to full extent of the law.

Handley-Knight Co. Organized.

Only part of the authorized capital stock of the Handley-Knight Co. was offered at its organization meeting in Detroit, but it was oversubscribed in less than 20 minutes and the company will have an immediate working capital of over $1,000,000. The company has 280,000 shares of common, no par value, and will not issue any preferred stock or bonds. The remaining treasury stock will be held for later sale and for profit-sharing contracts with working members of the organization.

The plant will occupy 40 acres at Kalamazoo and will have switches to three through railroads. The first unit will enable production of 30 cars per day. It will be an assembly building. Plans for the whole plant are being drawn.

The officers of the Handley-Knight Co. are: President, J. I. Handley, who for several years was one of the executives in the sales and branch house division of the Willys-Overland, where he established an enviable record; W. E. Upjohn, vice-president; C. S. Campbell, vice-president; W. L. Otis, secretary-treasurer.



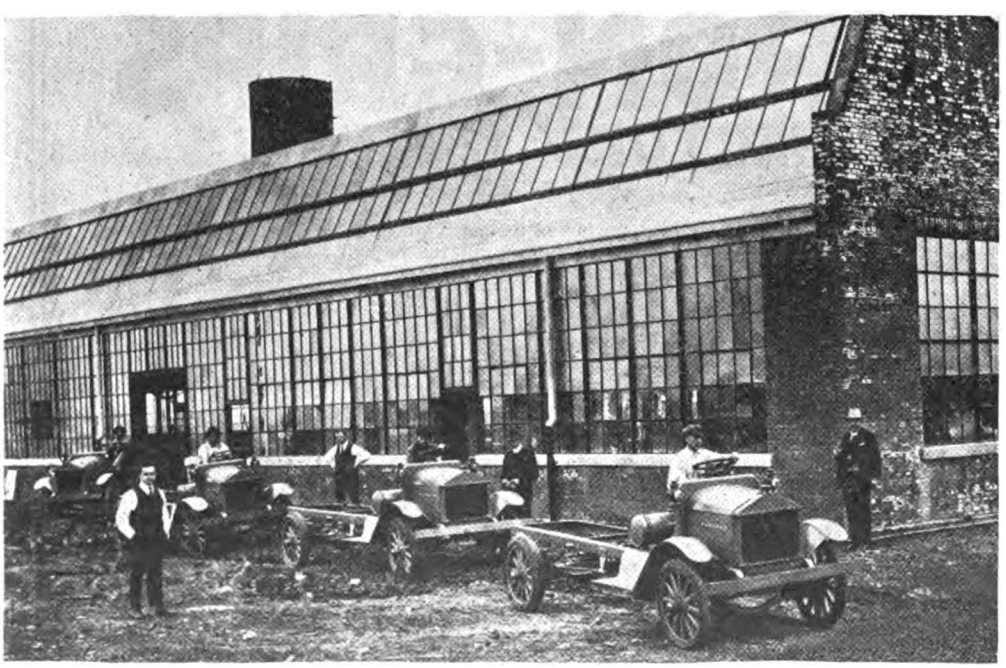
J. I. HANDLEY,
President Handley-Knight Co. Kalamazoo, Mich.

The company has secured a Knight license from the Knight-American Patents Co., which controls all rights in this country. Arrangements have been concluded whereby the Willys-Overland Co. will manufacture for the new company the four-cylinder motors at its great Knight motor plant in Elyria, O. The motor will be the high-grade four-cylinder motor, over 40,000 of which are now in successful use. The new company will build various body types on one chassis, and expects to begin the shipping of finished cars by midsummer of this year.

* * *

Stutz Earns Excellent Dividend.

For the year ending December 31, 1919, approximately $1,300,000, or about $13 a share, was the net earnings of the Stutz Motor Co. of America, Inc., Indianapolis. The 1918 net was $594,048; 1917, $1,074,779; 1916, $191,812. The net working capital at beginning of 1919 was $825,575, which has increased considerably. The company may declare a large stock dividend this year, or, if taxes would prevent may make a distribution in some other form.



HERE IS A STORY OF SOUTHERN MOTORS, AND ITS ENERGETIC LEADER.

The story of what was a dream two years ago, of accomplishing a great purpose against seemingly impossible odds, is that of Jacques E. Blevins, president of Southern Motors Manufacturing Association, Ltd., Houston, Tex. Mr. Blevins evidently is a born organizer. He saw the necessity of manufacturing in the South; visualized the possibilities in automotive products made in the midst of good labor conditions and cheap shipping rates.

His company, organized in a little office, now has what is claimed to be the largest plant of its kind in the entire Southern territory. It produces Ranger motor trucks, tractors, trailers and commercial bodies, all of recognized quality, the greatest care being used in selecting the units and raw materials.

Mr. Blevins has the right idea—the regional idea. He has shown that what is possible in the North and East is also possible in the South. His example calls to others, and his company stands out as a beacon to them. He has an able general production manager in Dan Smith. Their guiding slogan, uttered by Mr. Blevins and printed on their letter heads, is: "Organization without co-operation is like a fiddle with one string, lots of noise but not much music." A portion of the Houston factory is shown at the left; Mr. Blivens' portrait at the right.

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ENDS YOUR TIRE TROUBLES FOREVER

It brings new happiness and releases you from the horrors of expected tire trouble. Think of the joy of riding along without the eternal fear of a puncture or blow-out.—Think of getting 10,000 to 20,000 miles out of every tire—no vulcanizing, no patching, no repairing of any kind—just real good old pleasure riding. Do away with your inner-tube and the many troubles caused by its use forever by installing in your tires this wonderful and economical

NATIONAL RUBBER TIREFILLER

This marvelous substitute for air is being used by thousands and thousands of satisfied car owners all over the United States and many foreign countries. We have been selling it for more than seven years—We sold over 35,000 sets last year. It is a wonderful big success with years of actual service record back of it.

This Tire filler is made of the best grade of rubber cut in small particles, treated, molded and vulcanized by our special steam process, in sizes to fit all standard makes of tires. It is laid in your tires and not melted and poured in—It gives the same pressure as the well inflated air-filled tire and has all its good riding qualities with none of its faults—Can be transferred from one tire to another—Will not freeze, melt or harden—is not affected by climate conditions—fully guaranteed against deterioration in any form.

Don't let prejudice stand in your way. Good business judgment demands that you at least make a careful investigation. Let us send you full information, sample and prices. DEALERS—We have a fine proposition for you.

National Rubber Filler Co.

224 College St. MIDLOTHIAN, TEXAS

PACIFIC COAST OFFICE

National Rubber Tire Filler Co.

2315 California St. San Francisco, Cal.

Fourth Annual

Pacific Automobile Show

February 21 - 28

(inclusive)

1920

SAN FRANCISCO

44 **Automobile Dealers.**
Showing **54** distinct lines of Automobiles.
60,000 square feet of floor space devoted to Automobile Exhibits.

44 **Truck, Trailer *and* Tractor Dealers.**
Showing **55** separate lines.
33,000 square feet devoted to Exhibits.

80 **Accessory Dealers *and* Manufacturers.**
15,000 square feet devoted to Exhibits.

Decorations the most beautiful in America, Costing $50,000

Music and Entertainment each Afternoon and Evening

Sanctioned by the

Motor Car Dealers Association of San Francisco

G. A. WAHLGREEN, Manager

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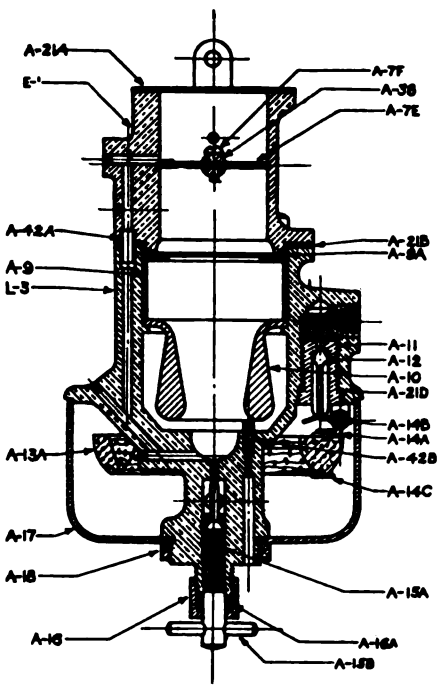
New Things in the Accessories Field

U & J CARBURETOR BUILT FOR BUSINESS.

Dispensing with all nozzles, spray jets and springs the U & J Carburetor is a remarkable achievement in simplicity of design and construction—a revelation in its perfect response to every motoring requirement.

With but one adjustment to be made,



CROSS-SECTION OF THE U & J CARBURETOR.

and this one so very easy to make that the individual requirements of every motor may be suited to a nicety, the U & J forever delivers its user from the evils of frequent readjustment rendered necessary by constant variations in running conditions, gasoline, temperature, or all of these things combined.

Once set to suit the motor to be served, nothing except the deliberate use of a wrench will ever disturb either the exact adjustment or the perfect working of this real carburetor achievement.

Both the volume and velocity of the air required to produce a perfect mixture for every motor speed and condition is controlled entirely by the movement of the throttle, and not by means of unreliable springs.

The U & J Carburetor is represented in California, Arizona and Nevada by Sellers-Murphy Co., 1028 Geary Street, San Francisco, Cal.

TURN-AUTO TURNS 'EM OVER.

The Turn-Auto, made by the Turn-Auto Corp., New York City, is a steel holder of cradle firmly holding any sized automobile or motor truck. It does not scratch or ure what it holds, in any way. For it laimed ability to roll the car over on one side by a turn of the crank, and to stop and hold the car at any angle; the car, when rotating occupying the same space as when standing. It requires no bracing on the floor, is made of stock material, and put together with standard bolts, hence easily assembled, knocked down and moved. It is said a car can be placed in the Turn-Auto and rolled from one side to the other in seven minutes; the engine lifted clear of the car easily by a windlass; likewise the front or rear end of the car lifted, and one or both axles and transmission removed, and the car rotated. The windlass is part of the device, which should interest both repairmen and owners. For the latter, cleaning is much facilitated.

GILL OVERSIZE PISTON RINGS.

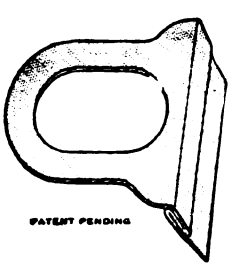
On account of the large amount of reboring and regrinding of scored cylinders which is being done today, a tremendous demand has developed for oversize piston rings to equip pistons for such jobs. The Gill Mfg. Co., 351 West 59th St., Chicago, is specializing in oversize rings and makes no extra charge for special oversize rings. Gill Piston Rings are made in all sizes to fit practically all motors, in sizes ranging from 2 to 12 inches. Gill Piston Rings which are oversize on the diameter can be obtained through jobbing and accessory houses throughout the United States, or inquiries can be addressed to the factory and they will be referred to the nearest jobber.

AMBU TROUBLE-FINDING DEVICES.

At the New York Show, one booth of particular interest to garage and repair men was that of the American Bureau of Engineering, of Chicago, which for five years has made a specialty of electrical battery shop devices. The exhibit included the Ambu trouble finders, and the numerous Ambu books published by the concern.

TRI-CO RIM TIGHTENERS STOP RIM SQUEAK.

The Tri-Co Rim Tightener has been put on the market to take up all wear and squeak in demountable rims, also the shearing of valve stems. It slips under

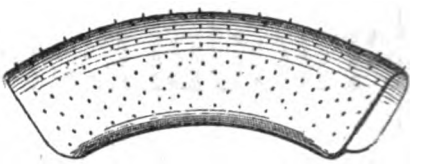


TRI-CO. RIM TIGHTENER.

the rim wedge, so that the wedge may be drawn back into position more tightly and securely. Sold in a set of twenty, Tri-Co Rim Tighteners cost $1. The makers are the Tri-Continental Corp., of Buffalo, N. Y.

PORCUPINE BOOT A SIMPLE, EFFICIENT TIRE-SAVING PRODUCT.

The Porcupine Boot is a heavy six-ply shoe, manufactured of heavy grade sea-island cotton. It is a simple and already remarkably successful device for lengthening tire life and tire mileage. Into the face of the boot are innumerable steel-cut needle points, piercing the outer casing.



PORCUPINE BOOT SAVES TIRES.

On the inside they are held against the tire by the pressure of the tube and the weight of the automobile.

In addition to this, the Porcupine Boot is coated with a heavy layer of hot vulcanizing cement, which attaches itself to the outer casing when applied. It solves the blow-out problem, it is claimed, and gives much more added mileage to the old blown-out tire.

If popular favor is any indication of excellence the Porcupine Boot already has met with unqualified success. It originated in Spokane, Wash., where the Auto Boot Mfg. Co. is the mother organization. It has been placed on the Canadian market, and with the formation of similar companies in the East will soon be in nation-wide distribution.

The Spokane firm has invaded the Southwest territory and the Auto Boot Mfg. Co. of California, with head offices in Los Angeles and a branch establishment in San Francisco, has been formed to distribute the Porcupine Boot throughout California, Arizona, New Mexico and Texas.

TARGA FLORIO WINNER ZENITH EQUIPPED.

The tenth Targa Florio race, which was recently held on the famous Sicilian course, resulted in another record for Zenith carburetion, says V. I. Shobe, assistant general manager of the Zenith Carburetor Co. The winner of the race was Andre Boillot, who drove a Zenith-equipped Peugeot car.

The Targa Florio, one of the most sensational motor races of Europe, is held on a course that is made up of tortuous curves, abrupt pitches and snow-filled mountain roads. The weather and road conditions this year were unusually bad, and consequently demanded, not only great skill and nerve on the part of the drivers, but also mechanical perfection in the cars.

The winning car and its driver met all of these demands. The Peugeot racer functioned perfectly during the entire run. Boillot, moreover, drove a great race, displaying a remarkable amount of courage and grit from the very start until the dramatic finish, when he crossed the line in a state of exhaustion.

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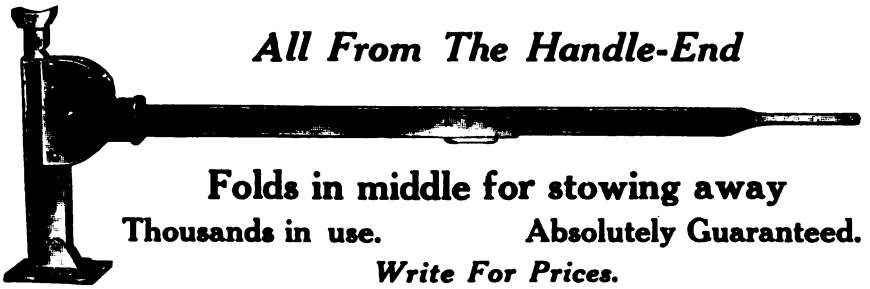
Lane's H.-C. Auto Jack

Is Placed On Handle and Pushed Under Car

PLACED OPERATED REVERSED WITHDRAWN

All From The Handle-End



Folds in middle for stowing away

Thousands in use. **Absolutely Guaranteed.**

Write For Prices.

Pacific Coast Representative

JOHN T. ROWNTREE, Inc.

SAN FRANCISCO	LOS ANGELES	SEATTLE
979 Monadnock Building	**601 Higgins Building**	**503 Maynard Building**

MANUFACTURED BY

LANE BROS. CO.. Poughkeepsie, New York

MANSION STREET

PORTAGE DAISY TREAD TIRES

Extra rubber and extra fabric, built layer by layer into a tremendous strain-resisting unit—

this means more mileage.

Better facilities, better workmanship, closer inspection—this means **Portage Quality** — more mileage.

Portage Tires carry profit advantages for the dealer in addition to the normal profits obtained from ordinary tires.

Write for the Portage Agency proposition.

Factory Branches

745 Mission Street
San Francisco, Cal.

410 West Pico Street
Los Angeles, Cal.

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PROTECTING AUTOMOBILE SPRINGS.

The leaves of an automobile spring are intended to slide upon one another when the car is in motion. Many motorists allow their springs to get dirty, to go without lubrication, and to become very rusty.

The leaves become so dirty that, instead of sliding on each other, they work almost as if they were one solid piece of steel. Then, when the car strikes a hole or a bump in the road, the springs are compressed and, instead of each leaf working as a separate unit, the lower leaves of a rusty spring are held fast to the upper leaves and the reaction from the compression of such a spring is many times greater than the reaction of a clean, well lubricated spring where the leaves are allowed to slip one on another.

The first step towards a remedy is to keep mud and dirt and all foreign matter away from the springs. This can be done by covering the springs with boots, sewed together, made of a good grade of leather substitute. This material is thoroughly waterproof and will keep dirt and moisture away from the spring. The lubrication on springs protected in this way will remain in place a very long time and will not gather up a great deal of grit to increase friction.

Boots made of leather substitute are well worth their cost in comfort and in added life to the car. Where they cannot be obtained ready-made, they can easily be made by anyone who can run a sewing machine or handle a needle and thread. Leather substitutes are obtainable in many department stores and at all automobile trimming shops and jobbers of automobile and upholstery fabrics.

APCO VALVE GRINDER FOR FORDS.

The Apco Mfg. Co., Providence, R. I., has just brought out a new valve grinder for Ford cars that will appeal to both the expert repairman and the owner who does his own repairs. In grinding valves this grinder holds the valve firmly so that it

APCO VALVE-GRINDER.

may be raised from its seat. It is fitted with a universal joint which makes possible the grinding of the last valve, and the revolving disc under the handle prevents the hand slipping down. The grinder is well finished, weighs one pound, measures 12 inches over all and retails for 50 cents.

PERMITS CAR TO BE LOCKED IN SEVEN DIFFERENT POSITIONS.

Probably the principal and the fatal defect of the average automobile theft-preventing device is that they are not proof to a cold chisel, hack-saw, file or hammer expertly wielded by some car-lifting gentlemen.

The above mentioned tools have no effect on the Los Angeles Auto Lock, according to its makers, the Los Angeles Auto Lock Co., of 136 S. Spring St., Los Angeles, Cal.

Sitting at the steering wheel, one turn of the key locks or unlocks the device, which is in place at all time. In case of fire or emergency the car can be moved 45, 75 or 125 feet to a place of safety, but no farther. It is impossible to tow it a greater distance.

The Los Angeles Auto Lock makes it possible to lock the car in seven different positions. It is sold at $1.

BLIVEN AIR GREASE GUN.

A new and interesting grease gun has been placed on the market by the Bliven Air Grease Gun Co. The gun holds two pounds of fibre grease or one quart of 600 W. The construction is of the simplest.

Air is used as the discharge medium, and may be connected with an air line or hand pump. Some of the largest oil companies have tested the gun and have adopted it for use in their filling stations.

Sales of the Bliven Air Grease Gun will be through jobbers exclusively and the entire distribution will be handled on the Coast by "Lee," located at 516-18 Van Ness Ave., San Francisco, Cal.

THE NEW PATTERSON-LENZ.

Patterson-Lenz is the name of the latest achievement of the Warner-Patterson Co. It is called revolutionary in optical engineering as a solution of the glare problem. Its sale will not interfere, it is said, with that of the Warner-Lenz, which is standard on 30 leading automobiles, 1,500,000 having been sold.

WHAT THE LEADAMETER DOES.

When a button on the dash is turned, the Leadameter shows the weight of the motor truck load and records it. It is said to be working nicely on several Goodyear trucks in various parts of the country. It is made by the Black & Decker Mfg. Co., Baltimore.

THOMPSON'S LINE OF CHEMICALS.

The Moto-Chemical Co., which will sell a new line of chemicals to the automobile trade, has been organized by A. Gale Thompson, 2 Stone St., New York. He was with the Joseph Dixon Crucible Co. 20 years.

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Think this over!

The strength of a chain only equals its weakest link and the best engine or machine built is useless if a vital nut jars loose.

DRAKE LOCK-NUTS

TRADE MARK REGISTERED U.S.PAT. OFF.

"NEVER JAR LOOSE"

WRITE FOR SAMPLE

Standard equipment covering vital points by many of the most careful manufacturers.
Try them on your upkeep.
Specify on all your new equipment—

DRAKE LOCK-NUT CO.
Cleveland, Ohio (*Plant*) **San Francisco, Cal.**

for **Spare Shoes**

The ALLEN TIRE CASE

The Allen Auto Specialty Co.
Makers of the ALLEN SHUTTER Radiator Cover
16 West 61 st.. New York
2007 Michigan Ave. (Chicago Branch)

Hindview **Auto Mirrors**

STYLE "D"
Hindview
(For Motor Trucks)

"Hindview" Auto Mirrors are necessary on motor trucks since in most instances the driver can not see traffic behind owing to his load. An extra long arm substantially made is required on account of the large overhanging bodies generally employed. Our style D is especially designed for this use. It is 22" long over all and is fastened to the dash, roof, body or roof supports by 5 wood screws.

Substantially made—nicely finished—has five inch plain, or lens, plate glass mirror. The lens mirror increases the field of vision about 50 per cent without distorting the view.

A. E. MOHRIG, 340 Phelan Bldg., San Francisco, Calif.
Pacific Coast Representative

KALES STAMPING COMPANY
444 WEST LAFAYETTE BOULEVARD DETROIT

U & J CARBURETOR
BACKED BY SERVICE

A Big Increase in Motor Efficiency and a 30% Decrease in Fuel Consumption

These are the facts of every U. & J. Carburetor installation—facts that are making U. & J. Carburetors the BIG factors in present-day motoring efficiency.

Full particulars on request—write us today.

SELLERS-MURPHY COMPANY
Sole Distributors
California, Nevada and Arizona
Executive Offices and Main Service Station
1028 Geary Street :: San Francisco

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BARNEY

"The Most Trustworthy Tires Built"

THE OLDFIELD TIRE CO.

BARNEY OLDFIELD, *President*

CLEVELAND

Export Department: 42 Broadway, New York

MORE POWER --- LESS FUEL

SU-DIG SERIES PLUGS are the only spark plugs that produce TWO SIMULTANEOUS SPARKS in each cylinder when connected with the ordinary plug. The two opposed sparks ignite the mixture at two points at once. This burns the gas more than TWICE AS FAST, resulting in a wonderful INCREASE in POWER and GASOLINE MILEAGE, and WITHOUT ANY CHANGE IN THE PRESENT EQUIPMENT.

Free booklet, "How to Get More Power." Write for it. Please mention car.

CHANSLOR & LYON CO.,
San Francisco, Los Angeles, Fresno, Oakland, Seattle, Portland.

McCOY MOTOR SUPPLY CO., San Francisco, Los Angeles.

SUPERIOR MOTOR POWER CO.,
135 D Fifth Avenue New York

SUNDERMAN $7.50
Vacuum Carburetor
F. O. B. Newburgh N. Y.

Model F, for Ford, Metz and Saxon Four, has shown marvelous gasoline economy and remarkable increase in power.

Perfect carburetion can be secured only through perfect mixing of gasoline and air in proper proportions. The Sunderman Carburetor not only produces such a mixture but breaks up the gasoline globules so finely that a MORE POWERFUL mixture is the result. Sunderman-equipped cars save from 30 to 50% in gasoline—increase mileage from 42 to 100%.

Order at Once—Splendid Dealer's Proposition.

SUNDERMAN CORPORATION, 17 Chambers St., Newburgh, N. Y.

Western Trade Notes

Seattle, Wash.—Exclusive distribution of Hassler shock absorbers in Washington has been taken over by a branch opened here by the West Coast Distributors Co., Coast distributors.—Joe Jefferson has been made sales manager of the reorganized Kimball Motor Co., Apperson agency.—The Mantell-Denby Co. has located in the former Gersix truck factory quarters, 1210-23 Fifth Ave.

Spokane, Wash.—The Spokane-Elgin Co. will have erected for it a one-story service building, having 4,200 square feet floor space, on Wall St.

Pomeroy, Wash.—H. J. Kukendall has sold his tire company here to James-McCurdy Co., owners of a chain of tire shops; Kukendall remains as manager.

Somerton, Ariz.—Harwood Smith has bought the one-third interest of E. P. Nielson in the Oklahoma Garage.

Yerington, Nev.—V. E. Custer has bought the Westerman Garage.

Winnemucca, Nev.—Smith's Garage is now operated by Bedell & Siebert.

Phoenix, Ariz.—A. E. Jacobson and T. E. Wayson have opened the People's Tire Corp. here.

Mesa, Ariz.—A. M. White has taken the Oakland Sensible Six agency.—The Mesa Motor Sales Co. has been named Arizona distributor of Savage tires.

Phoenix, Ariz.—Watson Brothers, agents for the Paige car, will have a $49,000 building erected for them at Sixth and Washington Ave.—New sales rooms and garage, costing $40,000, will be built on Washington St. for the R. D. Roper Motor Co.

Nogales, Ariz.—The White Motor Service Co. has bought the Haynes agency business of H. E. Ortiz & Co. for nine counties.

San Bernardino, Cal.—W. A. Swanguen has taken the Jordan agency for San Bernardino and Riverside counties; he has temporarily located in the White Garage.

San Diego, Cal.—Freiden & Croghan, Thirteenth and Broadway, are now Hudson, Essex and Maxwell dealers.—Mike McGann has been made county distributor for GMC trucks.—Auburn cars and Republic trucks are now handled for San Diego county by the Cohen-Conwright Co., 1473 Broadway.—The Auto Tire Co. has been opened at Fifth and A Sts. by J. Humbert Guy and L. A. Unger.

National City, Cal.—The National Garage & Machine Shop, owned by Arthur Hyer, has taken the Crow-Elkhart car agency.

Ukiah, Cal.—The Service Garage has been bought by Taylor Brothers and is now the Taylor Brothers Garage.

Mendocino, Cal.—James L. Bowman has bought his partner's interest in the B & B Garage.

Point Arena, Cal.—Johnston & Hanner have bought the Halladay Garage.

Sisson, Cal.—Joe Bianchi has bought the interest of E. S. Orr in the Northern California Motor Car Co.

Tulare, Cal.—Improvements, costing $6,000, being made on the Electric Garage will give it three times its former space.

Stockton, Cal.—R. C. Bridge has taken the Chevrolet agency.

Esparto, Cal.—The Ellis & Burke Motor Co. has incorporated for $50,000.

Taft, Cal.—The Southern Garage has taken the Leach car agency.

San Luis Obispo, Cal.—Hammond Brothers plan to build a $20,000 garage to house their Hudson and Essex agency.—Charles Owendale, in addition to the Central Garage, has bought and now operates the Overland Garage.

Paso Robles, Cal.—Booth Brothers have taken the Dodge car agency.

Gonzales, Cal.—John A. Pura has taken the Chalmers Six agency.

San Mateo, Cal.—The Chevrolet agency here has been taken by Davis & Wall.

Auburn, Cal.—The garage business of Hearne & Eason and the Pelton Garage have been consolidated.

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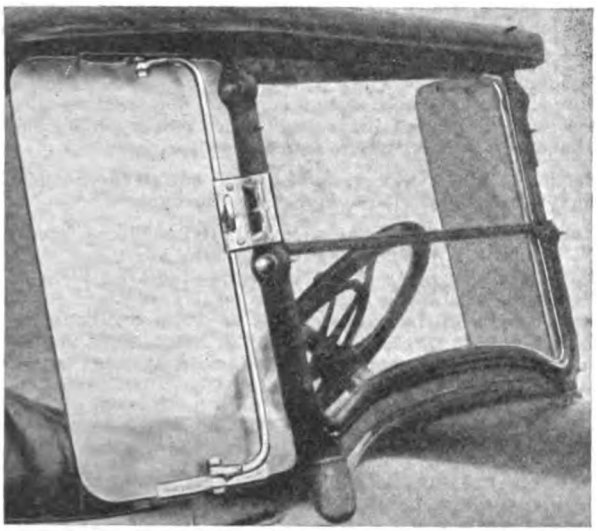
DE LUXE WINDSHIELD

"THE LAST WORD IN CAR COMFORT"



Protects Occupants from Wind and Dust and Adds Distinction to the Car.

De Luxe Has Extra Adjustment for Setting Shields to Create a Breeze in Hot Weather and Ventilate Car.

Only Shield Clearing Side Curtains.

Cast brass parts (non-rusting), finest nickel and black enamel, best windshield glass, two adjustments instead of one, designs to fit your car. BEST. NOT CHEAPEST. Installed in 5 minutes

PRICE $25.00

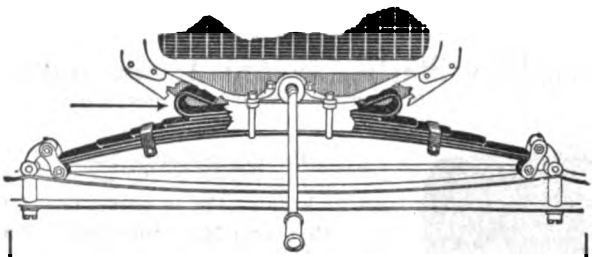
For Sale at All Dealers and Supply Houses.

DE LUXE WINDSHIELD CO.

341 LARKIN ST. MFRS. SAN FRANCISCO, CAL.

Mail orders promptly filled.

SAVEUR Springs Mean Economy, Comfort, Complete Satisfaction for Ford Owners



SAVEUR Ford Front Springs Keep The Motor in Alignment

Any Ford car owner, who is riding on the SAVEUR will readily give you the reasons why he equipped his car with this trouble saver.

This remarkable spring eases those inevitable road shocks that every motorist is obliged to experience. The open loops withstand these racking jars and jolts and their resilient strength is ever dependable. The SAVEUR spring means longer Ford front spring service and a decided saving in expense.

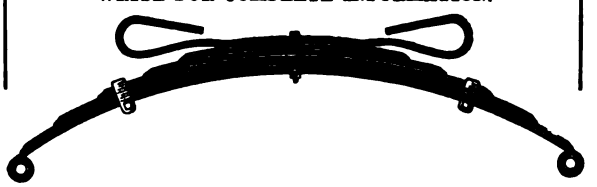
PRICE:

Saveur Ford Front Spring complete.....$6.50

Saveur Open Looped Leaf only..... 2.50

Quickly fitted on any Ford spring.

WRITE FOR COMPLETE INFORMATION.



New Era Spring & Specialty Co.

1190 Hamilton Ave., Grand Rapids, Mich.

For Sale

Peugeot Racing Car, No. 1

Driven by Dario Resta. 300 piston displacement. Guaranted to be in perfect condition. Ready to enter any big race. Large number of spare parts included.

PEUGEOT AUTO IMPORT COMPANY

1776 Broadway NEW YORK CITY

SECURITY AUTO LOCK

The original loose wheel lock for Fords. Approved by under writers. Insurance reduced 15%. Made of solid brass. Nickel plated. Easily installed in 10 minutes. No drilling. No filing.

No sawing.

No chiseling.

Price $6.50.

Western Distributors Wanted.

SECURITY AUTO LOCK CO.
410 N. Paulina St.
Chicago, Ill.

MOTOR WEST

reaches a larger percentage of dealers than any automobile publication circulated on the

PACIFIC COAST

Cut No. 28 For Gasoline at the Curb

Money-Makers

Wayne Curb Pumps give you better profits because they are so well made that they last longer, serve better and are always on the job at the curb, for you and your trade. Write for Bulletins 280MW. and 11MW.

WAYNE OIL TANK & PUMP CO.

711 Canal St. Ft. Wayne, Ind.

Sales Offices in All Large Cities

Representatives Everywhere

Wayne

Honest Measure Pumps

Cut No. 11 For Air and Water at the Curb

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EISEMANN
MAGNETO

For Easy Starting in Any Temperature—
no other form of ignition ever devised equals the Eisemann Magneto.

For dependability under all conditions it is supreme.

Eisemann Magneto Corporation
32 33rd Street, Brooklyn, N. Y.

Chicago, 910 S. Michigan Ave.
Detroit, 85 Willis Ave., West.

The Motor Truck bought today without Electric Starting and Lighting will be out of date to-morrow

BETHLEHEM
Internal Gear Drive
MOTOR TRUCKS
Dependable Delivery
BETHLEHEM MOTORS CORPN. ALLENTOWN, PA.

The Motor Truck bought today without Electric Starting and Lighting will be out of date to-morrow

1½ tons 2½ tons 3½ tons

Peerless Piston Rings

Holds Oil Down

Maintains Compression

NOTE LOCK JOINT

C. D. HELLYER
909 S. Grand Avenue
Los Angeles

BARNETT AUTO BODY CO.
430 Golden Gate Avenue
San Francisco

WINTHER MOTOR TRUCKS KENOSHA WIS.

Simple as A B C

THE reason for the Winther supremacy in both sales and service is as simple as A,B,C. Development as a direct result of war-time conditions, Winther best met the needs of a nation at war and best meets the need of a nation in peace.

WINTHER (REAR DRIVE) AND WINTHER-MARWIN (FOUR-WHEEL DRIVE) TRUCKS ARE EACH BUILT IN SEVEN SIZES, 1½ TO 7 TONS CAPACITY.

WINTHER MOTOR TRUCK COMPANY
Dept. 20. KENOSHA, WIS.

San Francisco, Cal.—The Power Rubber Co. will have a one-story brick sales building, to cost $22,500, erected for it at Turk St. and Van Ness Ave.

Long Beach, Cal.—J. V. Hough, who recently resigned as Chevrolet branch manager in Los Angeles to take the Chevrolet agency here, has added the Oldsmobile line.

Pasadena, Cal.—The Pauley Motor Car Co., on E. Colorado St., is now dealer for Dort and Reo cars and Reo trucks.—The Hull Motor Car has located in fine new sales rooms on W. Colorado So., handling Essex, Hudson and Maxwell cars.

Glendale, Cal.—Chambers & Felts are now Hudson and Essex dealers for Glendale, Eagle Rock and Burbank.

Santa Ana, Cal.—The Santa Ana Radiator Works has opened on N. Birch St.—Wheelers' Ignition Works has taken the Gould battery service agency.—The Rutledge Radiator Shop at 518 N. Birch St.—The Main Supply Station is now agent for Brunswick tires.—Philip Laux has opened on Main St., handling Oldfield, Savage and Gates tires.—Knox & Stout, Ford dealers, are now located at Sixth and Main St.—Cone & Moesser have taken on the Standard Four tire line.—The Chevrolet agency is now held by the Reid Motor Co.—G. H. Christian has taken the Maxwell agency.—Geier & Parker have opened an agency for Wallis tractors and Acme trucks on E. Third St.

Fullerton, Cal.—G. A. Miller and E. E. Miller have opened the Miller Garage here.—The Orange County Ignition Works has moved to its new building on Commonwealth Ave.

Orange, Cal.—Thompson & Watson have opened a complete battery and electric works.—The Pico Transfer & Oil Co. have opened an oil supply station.

Portland, Ore.—The Friedli & Dresser Motor Car Co. will have a new garage, costing $10,000, erected for it at Union Ave. and Sacramento St.

The Dalles, Ore.—The Manchester-Clark Motor Co. has been formed with $25,000 capital by Russell S. Clark, Frances M. Clark, F. E. Manchester and Maud Manchester.

Los Angeles, Cal.—Lyman P. Clark has been made sales manager of the Master Carburetor Co.; he was Lord Motor Car Co. sales head for eight years.—A two-story sales building, costing $23,000, will be built at 1337 S. Flower St. for the Keaton Tire Co.

Use Motor West

¶ Every Eastern automobile or accessory manufacturer can help his Pacific Coast representative increase his sales by a liberal use of the advertising columns of MOTOR WEST.

¶ Coast dealers and factory representatives should insist on the factory folks giving them the same advertising support in "The Motoring Authority of the Pacific Coast" as is accorded the Eastern and Middle Western dealers and representatives in the motor trade journals published in those sections. Otherwise the dealers and representatives here, who pay their proportionate share of the expense of advertising in the Eastern and Middle Western journals (and incidentally receiving very little benefit from it) are paying for something they do not get.

THINK IT OVER!

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PARAB-O-LIGHT

"The Lens That's Right"

Tested and Approved in California.

The lens that conserves the energy from the storage battery by producing a perfect driving light when used with bulbs of 15 to 20 C. P.

Prices: $3.25 to $4.25 per pair.

THE J. D. FRENCH COMPANY
30-32 DAVIS STREET
PACIFIC COAST DISTRIBUTOR

THE ZORGER LENS COMPANY
CHAMPAIGN, ILL.

SIOUX
Trade Mark Reg. U.S. Pat. Office

Sioux Tools have set up a new standard of efficiency in

Removing Bushings, Re-Facing, Re-Seating, Grinding

any and all valves

There is only one best—the "Sioux"

ALBERTSON & CO. Manufacturers, SIOUX CITY, IA.

MODEL 502 TEST SET
Price $25.00 prepaid to you.

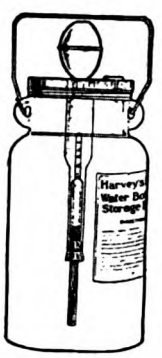
We manufacture electric testing, charging and magnetizing instruments for use in garages and service stations.

We publish the world's best book on motor car electric systems, showing wiring and circuit diagrams back to 1910. Also includes the elementary principles that you should know. Price delivered to you, $2.50.

Complete Catalog Free.

We have openings for a number of Western dealers. Write for our free catalog and dealers' proposition.

H. E. PHILLIPS & CO. Union City, Indiana
(Formerly Phillips Engineering Co. and Auto Electric Systems Publishing Co., Dayton, O.)



FOR YOUR BATTERY'S SAKE!

Use the Genco Battery Filler—keeps dirt, dust and grease out of your battery cells. The dial cap with MOVABLE INDICATOR records last date battery was filled and tested. RESULT—Better lights and never-failing starter. The dial is water and acid-proof and will last a lifetime. Genco Filler costs $2. Dealers and Jobbers write for full information and increase your profits. Manufactured only by

General Scientific Equipment Co.
North Philadelphia, Pa.
Hydrometer Manufacturers Since 1893.

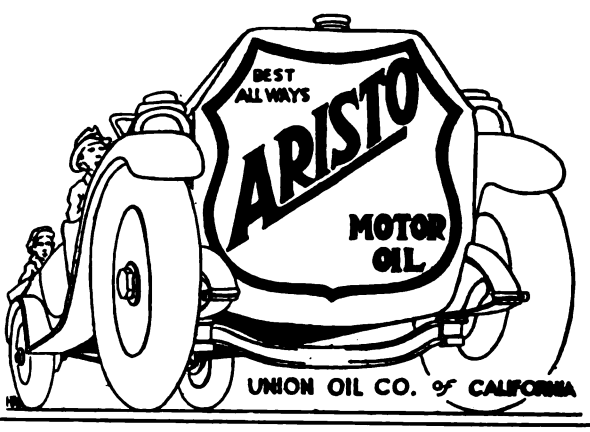
MORELAND TRUCKS

All Morelands burn Distillate

They are reliable, rugged and powerfu transportation units

Moreland Motor Truck Co.
1701-31 N. Main Street Los Angeles, Cal.

BEST FOR THE WEST



MOTOR WEST

Reaches a larger percentage of dealers than any automobile publication circulated on the

PACIFIC COAST

ONE PIECE
On Market 5 years 1,000,000 a month
Beware Imitations
"NO-LEAK-O" Patented
NO-LEAK-O PISTON RING CO., Baltimore, Md.

LOS ANGELES WAREHOUSE COMPANY

MAKES A SPECIALTY OF AUTOMOBILE STORAGE

CARS UNLOADED DIRECTLY INTO WAREHOUSE

316 COMMERCIAL STREET
14727. Main 4767

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MOTOR WEST'S REGIONAL MOTOR MART

RATES—One time, $4.00 per inch; three times, $3.75 per inch; six times, $3.50 per inch; twelve times, $3.25 per inch; twenty-four times, $2.75 inch

CYLINDER WORK

SCORED CYLINDERS
REPAIRED BY
Lawrence Patent Process

Fused with our silver-nickel alloy. Same pistons fit. Reshipped 24 hours after received. Approved by all motor manufacturers. Guaranteed for life of motor.
Established 1862
L. LAWRENCE & CO.
Plants in All Principal Cities
San Francisco, 116 Hyde Street
Los Angeles, 1030 South Grand Ave.
All infringers will be prosecuted to full extent of the law

ACCESSORIES

MOTORLIFE
TRADE MARK REG.

Saves 25% to 50% Gasoline, removes carbon, produces motor efficiency and completes lubrication.
Motorlife is guaranteed harmless to any motor, under all conditions and in any quantity.
Purchase price refunded if Motorlife does not prove satisfactory.
Motorlife must eventually become part of your equipment. Why not now?
M. F. ENDERLE, So. Cal. Dist.,
306 California Bldg., Los Angeles, Cal.
W. H. A. SHERMAN,
Los Angeles Co. Agt., Phone Main 3903.

AUTO BODIES

COMMERCIAL *and* TRUCK BODIES FOR FORDS

BARNETT AUTO BODY CO.
430 Golden Gate Ave. :: San Francisco

FREIGHT FORWARDING.

Traffic Managers Ship Brokers
Ocean Freight Forwarders
WESTERN TRAFFIC SERVICE
FREIGHT RATE EXPERTS
JAMES E. HELPLING, General Manager
Marsh-Strong Bldg. LOS ANGELES, CAL.
MAIN 7578

FOR SALE.

Fire Extinguisher Formulas For Sale:

50 cents worth of material will make ten pounds of the best known Dry Powder Extinguisher made.
$1.50 worth of material makes a barrel of the most popular and widely used Liquid Extinguisher known.
Price: Two formulas, $3.00. One, $1.50.
J. E. WARNER, Pasadena, Calif.

SPRINGS

Cambria Spring Company
"Proven Quality"
CHROME VANADIUM AND CARBON STEEL SPRINGS

Cambria, the Unbreakable Rattle and Squeak Proof Bumper

High-Grade Second Growth Hickory Wheels
Springs, Wheels and Bumpers Repaired
Wrecking Jobs Our Specialty
Tire Racks and Platforms Applied
Forgings, Demountable Rims Applied
Main 1076—65233 916 So. Los Angeles St.
LOS ANGELES

GRUSS

Distinguishes the BEST from the REST
The *Choice* of the MAN *who* KNOWS
No Rocking or Swaying on Curves
Guaranteed 5 Years
GRUSS AIR SPRING CO.
Telephone Park 7306—7307
179 Grove Street, Opp City Hall, San Francisco
Branches:
Los Angeles, 775 Towne Ave. Portland, Ore., 503 Alder Seattle, Wash., 562-1st Ave., S.

TRAILERS

$35 TO $350
2- and 4-Wheeled Trailers
Auto Trailer Co.
1322 S. Central Ave. Los Angeles, Cal.

GEO. MOODY, Prop. Sunset Bdwy. 7242
Auto Supply and Wrecking Place
Registered
Autos and Auto Parts Bought, Sold and Exchanged
Engines, Transmissions, Tires
1131-33-35 S. Los Angeles St., Los Angeles, Cal.

AUTOMOBILE MAILING LISTS.

AUTO MAILING LISTS

Send for our free complete Price List covering Auto Dealers, Owners, Ford Dealers, Truck Dealers and Owners, Garages, Auto Mfrs. and etc., any state.
A. F. WILLIAMS, Mgr. of List Dept.
166 W. Adams St., Chicago.
Capital Invested $50,000.

ACCESSORIES

ROSE GREASE GUNS

"Rose" Grease Guns are self-loading. They fill by suction—anything from light oils to the heaviest greases. Made of steel throughout. Heavy double cup leather.
No. 1 Auto 12½x1¼"
No. 2 Truck and Tractor 19½x1½"
No. 3 Shop and Garage 24½x1½"
ROSE
Grease Guns net the Jobber and Dealer a nice profit

Over 1,000,000 ROSE TIRE PUMPS

In use in the United States. 2,000,000 more will be sold this year. *The Patent Valve is the reason.* Five years satisfactory service to the user is the past record of *The Rose Tire Pump.* All steel construction, will not jam or dent in the tool box. Equipped with the best hose that money will buy—5 ply, 3-16" inside diameter, 17-32" outside diameter.

If your dealer cannot supply you, write us
J. H. Haney & Company
Hastings, Nebraska, U.S.A.

Every Ford Owner Should Read "Transforming the Ford"

—Tells how to secure smooth, positive brake action that no car can excel. A little "transforming" and your car will glide to a quick, quiet stop without the annoying, irritating clatter that you now experience. It will go into low or reverse without jumping or jerking, and you can pick up speed with all the smoothness and ease of a high-priced car. All accomplished without additional expense and the result is a clear saving of 75 per cent in one direction alone. "Transforming the Ford" tells how it's done. Send for your copy this very minute—10c stamps or coin. CORMACK CO., Dept. 21, 500 Fifth Ave., New York City.

HELP WANTED—MALE.

Tire Salesmen Wanted

Our new selling plans for Spring have made openings for several real salesmen who are accustomed to making "big money" and expect to continue making it. We offer an A-1 opportunity for real, constructive salesmanship, and we expect to pay for what we know is a man-sized job.

If you are interested please tell us what we ought to know about your record.

Braender Rubber & Tire Co.
Rutherford :: New Jersey

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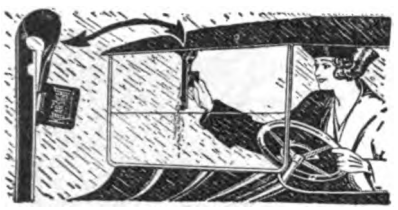
ACCESSORIES.



Just one easy motion across—and the

KLEAR-SIGHT WINDSHIELD CLEANER

gives you a clean dry glass. Rain, Mist or Snow goes off in a jiffy if your car is equipped with KLEAR-SIGHT. A KLEAR-SIGHT ahead prevents accidents and makes it easier to drive. Can be slipped on or off any windshield instantly. Works simply and efficiently.

If you have any difficulty getting Klear-Sight, write us direct

KOR-KER

Instantly seals punctures.
Stops slow leaks.
Keeps tires at normal inflation.
Preserves tubes and casings.
Adds 50% to mileage value of tires.

ALCEMO MFG. CO.
147 Bridge Street :: :: NEWARK, N. J.

LATE TRADE NEWS

Mohawk's Unusual But Logical Plan.

Again it is apropos to say that the fever for use of advertising in journals of general national circulation was started by an advertising agent of much personal power, who found his immediate advantage in the plan; who easily convinced clients; whose lead was followed by other agents and who is said to have said: "Let me have a man's appropriation two years; I don't care who gets it then."

The Mohawk Rubber Co., Akron, O., began and has held to an advertising method radically opposed to the usual; and its logic has proved good. During its first two years, the company did no advertising—simply tried to produce an extremely high quality tire. As it sold, and advertised itself, repeat sales came. Then trade paper advertising was used to get dealers and users simultaneously—instead of getting a demand, with no dealers to fill it, in many sections. This method, followed five years, has built up a tremendous production and national distribution.

* * *

Bethlehem Spark Plug Corp. Expands.

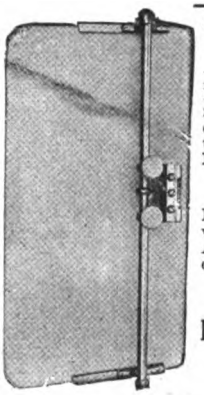
The Bethlehem Spark Plug Co. has tripled its outlets and now stands third in production capacity, it is announced by this successor to the Silvex Co., South Bethlehem, Pa. It is capitalized at $2,500,000 and Charles M. Schwab is one of its directors. E. H. Schwab remains as president of the new company; W. N. Davidson, vice-president; E. B. Turn, secretary and treasurer; W. S. Moore, chief engineer. Equipment contracts are said to have been closed with more than 50 well-known manufacturers of automobiles, tractors, trucks, etc.

* * *

Soon Will Bring Home the Bacon.

President Fred Vanderhoof, of the Bacon Motors Co., Newcastle, Pa., recently started his first models for Detroit, to have bodies fitted in time for private exhibition during the Chicago show. He reports demands for more than 20,000 cars for 1920.

WIND DEFLECTORS



SIDETRACK the WIND
Attach PACIFIC
WIND DEFLECTORS
Ride in solid comfort. Keep that draft off. You not only owe this added comfort to yourself, but to your passengers.
No Perforations in Glass
Rust-Proof Brackets
Rattle-Proof
Not a novelty, but a proven, practical necessity. Accept no substitutes, demand Pacifics.
(Name on each pair.)
Price $20.00.
Pacific Windshield Co
814 South Olive St.
Los Angeles, Cal.
Phone M. 8133

TRANSFORMERS.

EMO TRANSFORMERS
Will Increase Power—Add Fuel Mileage—For Automobiles, Aeroplanes, Trucks, Tractors, Motorcycles, Marine and Stationary Engines

EMO TRANSFORMERS transform the ordinary slow, faint spark into a high-tension blue blaze or flame which instantly explodes all the vapors even in the lowest gravity fuel, thereby insuring greatly added power and mileage. This intensive blue-white EMO flash keeps the spark plug points free from carbon, soot and oil. Prevents "bucking" or "loping." Insures easy starting, quicker acceleration, and a sturdy, uniform flow of power at all speeds. Protects the entire ignition system. Save many times their cost in fuel and spark plug economy. One EMO on each plug makes all cylinders pull even. Can be attached by anyone.

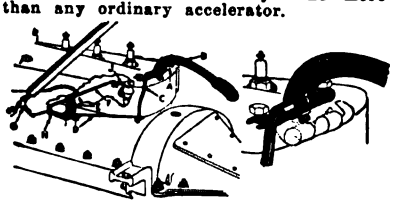
$1.00 Each at Dealers, or sent prepaid upon receipt of price. State make of car when ordering.

The Emo Laboratories 2256 North Illinois St. INDIANAPOLIS, IND.

ACCESSORIES

DEMAND THE LEMCO FORD FOOT ACCELERATOR BECAUSE

It will save you one hour's time in making Installation and cost you no more than any ordinary accelerator.



Manufactured by
Lemco Mfg. Co.
LOS ANGELES, CAL.
1042 S. Olive St. Main 2858

PARTS.

PARTS PARTS PARTS

Make the **California Auto Parts & Wrecking Co.** your headquarters for everything in repairs and accessories for all makes and models of cars, both old and new.

MOTORS MOTORS MOTORS

Hundreds of them, all sizes and for every purpose. If your old motor is worn out, or beyond ordinary repair, we will furnish you with one to replace it, no matter what make, and give you liberal allowance on old motor. We have hundreds of them. Also hundreds of crank cases, cylinders, crankshafts, clutches, pistons and connecting rods, wheels, frames, steering assemblies, gears, rear end axles, radiators; in fact, everything and anything needed for an auto.

ACCESSORIES ACCESSORIES

All new accessories at a saving of 30 to 50%. We also carry a large stock of new gears for many makes and models of cars.

Learn to rely on our service. It is efficient and prompt. No matter what you want, it is usually to be found in our immense stock, the accumulation of ten years' business.

California Auto Parts & Wrecking Company
523 Golden Gate Ave., San Francisco, Cal.
Branch: 1130 S. Main St., Los Angeles, Cal.

WINDSHIELD CLEANERS

RAIN-SNO
CLEAR VIEW
WINDSHIELD CLOTH
AVOID ACCIDENTS
Do not drive your car with a Rain-Blurred Windshield
Over 10,000 Accidents Yearly caused by such a condition

RAIN-SNO "RED CLOTH" keeps the entire glass clear by chemical action. One application over wet windshield will give a clear driving vision which will last as long as any storm. *Be insured against accident* and secure a RAIN-SNO CLOTH today. At your dealers or by mail postpaid. **Price 50 cents**
Refuse substitutes and insist upon the Original "RED CLOTH"
Made only by SUFFOLK MANUFACTURING CO.
3168 Washington St., Boston, Mass.

CARBURETORS

"MORE POWER TO YOU" with
Miller Carburetors
PROVEN BEST IN EVERY TEST
Harry A. Miller Mfg. Co.
17th and So. Los Angeles St. Los Angeles

Lincoln Motor Stock Selling Well.

Stock brokers say the 100,000 shares of class A Lincoln Motor stock of no par value, offered at $50 subject to allotment, are finding a ready market. Point is made of the fact that the company has quick assets of $7,500,000. At $50 the stock mentioned will bring in $5,000,000.

* * *

Change in Price on Dort Models.

February 15, all Dort models will have new prices, as follows: Touring car and roadster, $1035; Fourseason sedan and coupe, $1665.

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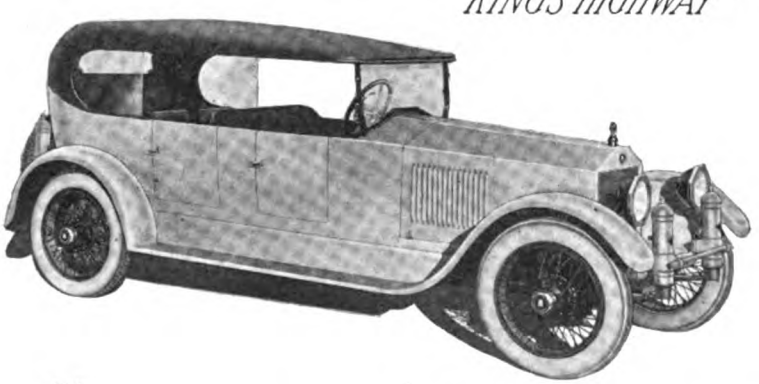
Announcing The CALIFORNIAN

"The CAR of the KINGS HIGHWAY"



In presenting "The Californian," we offer the discriminating motorist a car of unsurpassed beauty of design, combined with a mechanical perfection representing the utmost in construction.

Designed and built by

California Motor Car Corporation

Los Angeles, California

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A million

FORD OWNERS

Use Advance Cork Insert

A million Ford owners—from the man who owns his own, up to the industries that operate fleets—use Advance Cork Insert Linings.

These Ford owners have learned that Advance Cork Insert is the only linings for Fords that'll start or stop a Ford car without a rattle or jar. This is the reason.

Advance Cork Insert Linings never get hard nor slick. They never grab nor slip, but take hold easily, smoothly—then hold steadily.

Advance Cork Insert Linings remain soft and velvety because the cork surface do not soak up oil. The original soft, clingy, spongy surfaces of the cork remains so. Ordinary fabric becomes hard and glassy-smooth.

When pressure is applied it grabs and slips, repeatedly. This action causes the rattle and jar.

Advance Cork Insert Lining is the only lining that overcomes this action.

Over a million Ford owners have learned that Advance Cork Insert Linings are the only lining they can buy that will actually start and stop their Fords easily, smoothly and quietly.

DEALERS:

A few imitations of Advance Cork Insert, sponsored by irresponsible people, are being offered to the trade. Their cheapness alone condemns them. We are protecting our patents. The legal action we have instituted against these patent-pirates is slow. In the meantime don't get caught or your reputation hurt by trying to sell these imitations. There is only one genuine—every jobber in America handles it—it is ADVANCE CORK INSERT in the red box.

Advance Automobile Accessories Corporation, 56 E. Randolph Street, Chicago

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Pennsylvania AUTO TUBE

"TON TESTED"

THIS is the remarkable tube that, in three moving picture tests, did these things:

1—Lifted a five-passenger touring car and scaffold—total weight 2990 pounds.

2—A year later, lifted a load increased to 3755 pounds.

3—Expanded to sixty inches in circumference without bursting.

And not one of these tests harmed it in the slightest degree.

Greatest strength, elasticity, highest quality, yet sold at approximately the price of **ordinary** tubes.

Makers of Vacuum Cup Cord and Fabric Tires

PENNSYLVANIA RUBBER COMPANY

JEANNETTE, PA.

Direct Factory Branches and Service Agencies Throughout the United States and Canada.

Export Dept., Woolworth Bldg., New York City.

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USED AT SHELL OIL FILLING STATIONS

An Actual Photo

MR. GARAGE SUPERINTENDENT!

GREASE CARS WITH COMPRESSED AIR

IT IS FASTER CLEANER BETTER

When Used With The

LEE

AIR GREASE GUN

ASK YOUR JOBBER

LEE

516-18 VAN NESS AVE.
SAN FRANCISCO, CAL.

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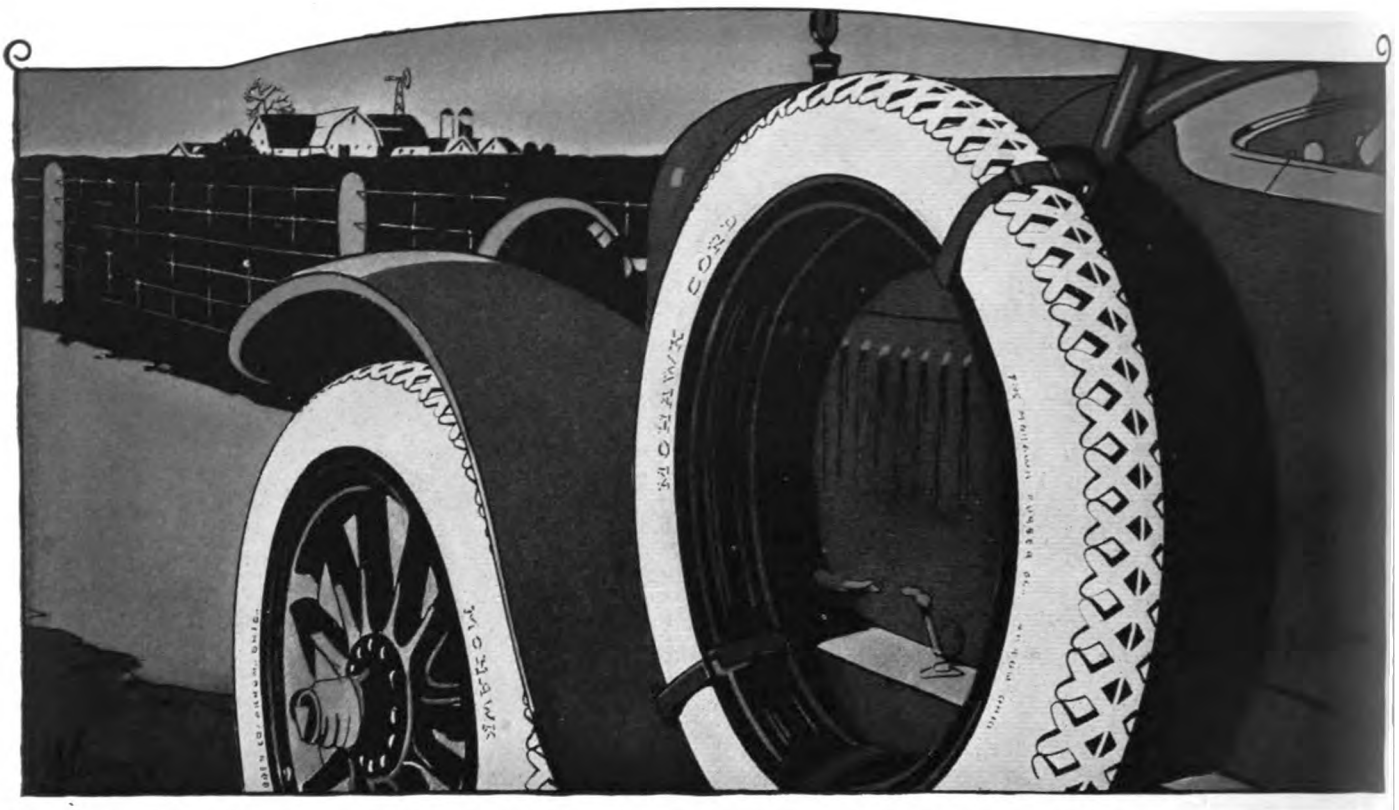

MOHAWK TRADE

Isn't Quality YOUR Impression of a Mohawk Tire?

Ask yourself that question and see if the answer isn't—"Yes." It invariably is.

Quality is the general impression that Mohawks have built for themselves during the seven years of their existence.

And *true* quality it is!—quality that excludes all "fillers," rosin, glue, whiting, barytes, clay. Quality that uses only the best obtainable fabric—and that puts an extra ply of fabric in the fabric tires. Quality that eliminates machine making and that builds a tire more uniformly and longer wearing by hand. Quality that employs only the best and most experienced workmen in the industry.

Mohawk dealers tell us that no tire dealer could ask for more from a tire than this—especially in view of the fact that, due to modern sales promotion plans, this quality impression is nation-wide.

Think it over in the light of your own experience. Place yourself in the position of the average tire buyer and ask yourself if anyone could continually sell you something that was not the highest grade, strongest, purest and best made.

We believe you will agree—quality is the thing most sought by the buyers of any product because true quality is true economy.

The Mohawk Rubber Co. is always glad to talk to capable, big-visioned dealers who base permanency and profits on equality.

MOHAWK RUBBER COMPANY, AKRON, OHIO

DISTRIBUTORS

JENSEN-KING-BYRD Co.,
320-324 Riverside Avenue,
Spokane, Washington.

MUNNELL & SHERRILL,
40 First Street,
Portland, Oregon.

RUBBER SERVICE CO.,
1023 E. Pike Street,
Seattle, Washington.

MOHAWK "Quality" TIRES
HAND MADE

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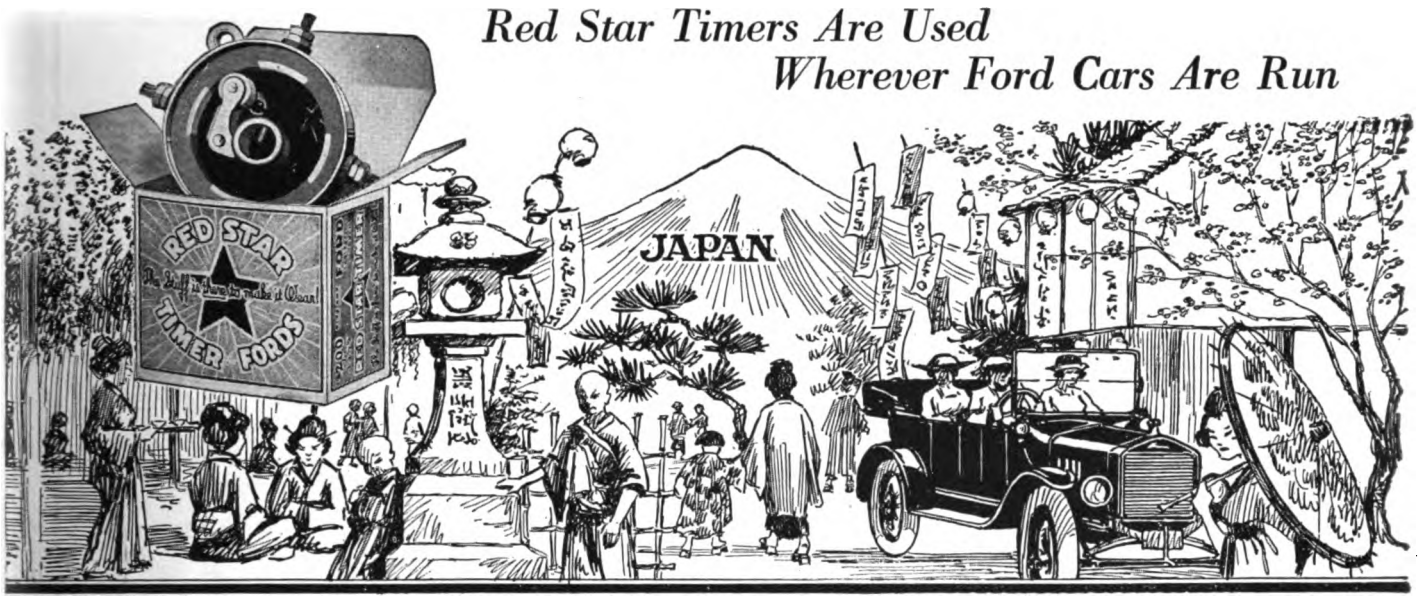


THE name Red Star means the best timer made for Ford motors. Ford owners everywhere know this.

Thousands and thousands of Red Stars in daily use all over the world are making Ford motors hit on all four.

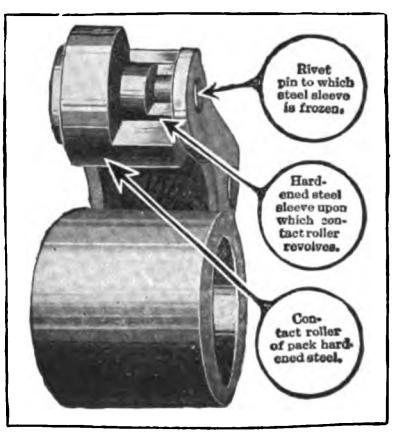
The quality of Red Star Timers make them the best timers that can be bought. The Red Star roller-on-a-roller, a special feature—keeps the roller rolling all of the time. This construction prevents roller from dragging or wearing angular.

The Red Star fibre race is without a parallel. It is made of time-cured—bone-hard—natural color fibre—fitted accurately—ground and highly polished. The steel segments are mortised in the race. The whole race wears evenly and smoothly—no pits—bumps or furrows. Red Star Timers wear twice as long as any other timer.

A Red Star Timer on your Ford will make it smooth running, easy starting and full of "pep." You can get a Red Star from your dealer—or remit $2.00 and we'll supply you direct.

DEALERS—Keep ahead of the demand for Red Stars. Order from your jobber today. Advertising, reputation—quality and the famous Red Star trademark assure you of a fast moving, profitable stock.

Red Star Timer
FOR FORD CARS·TRUCKS AND TRACTORS



Study the construction of the Red Star Roller

$2.00 in United States
In Canada, $2.75

Auto Components, Inc.
56 E. Randolph St., Chicago, Ill.

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"Because of Relief from Worry, Would Not Use Any Tire But Hood"

Hood Arrow Cord Tire

Los Angeles, October 10, 1919.

Hood Tire Company,
Los Angeles.

Dear Sirs:

It may interest you to know that the writer had a great deal of trouble with tires (owing to heavy car) up to January, 1916, when he put on his first Hood Tire.

That first Hood Tire is in splendid condition and has never been off the car.

Previously a tire was good for 2,500 to 3,500 miles on this heavy car.

Cannot say what mileage it will give as none have worn out.

Because of relief from worry over tires, the writer would not use any tire but a Hood Tire.

Yours sincerely,

(Signed) J. M. LOVE.

(Letter reproduced by permission.)

Hood Arrow Fabric Tire

THE writer of the above letter has expressed in one sentence the feeling which 98% of Hood Tire users have toward Hood Tires.

This "relief from worry" is the result of the superior quality built into Hood Tires.

After four years of constant use, the tire Mr. Love writes about is still in service.

In granting us permission to reproduce the above letter, Mr. Love wrote:

"Your tire has earned the strongest statement I can make; concerning its performance, no words of mine can convey to you or any one my pleasure in its use. Put on a Hood Tire and realize it!

"I have used Hood Tires for years and never worn one out; never stopped for a puncture; and now my state of mind in its calm certainty of service from this 'trouble-less' Hood Tire reflects that honest pleasure your salesman 'Steve' got in first persuading me to try it. Heaven bless 'Steve' and his Hood Tires."

This attitude is characteristic of practically every Hood Tire user. It is not accidental.

It exists because Hood Tires are made to give the utmost possible service, not only in big mileage and low-cost-per-mile, but also in the satisfaction that comes with freedom from worry over tires.

BRANCH:
SAN FRANCISCO, CAL.
118 New Montgomery St.

BRANCH:
LOS ANGELES, CAL.
1223 So. Olive St.

Canvas Rubber Leather HOOD FOOTWEAR

HOOD RUBBER PRODUCTS COMPANY

Cord Fabric Solid HOOD TIRES

Watertown, Mass.

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DORT

Quality Goes Clear Through

There is, we believe, thruout the entire Dort distributing organization a very active and keen appreciation of the value of co-operation with their dealers.

Dort distributors, we like to think, are intent upon making their dealers permanent connections.

They are intensely interested in helping each dealer to profit and prosper.

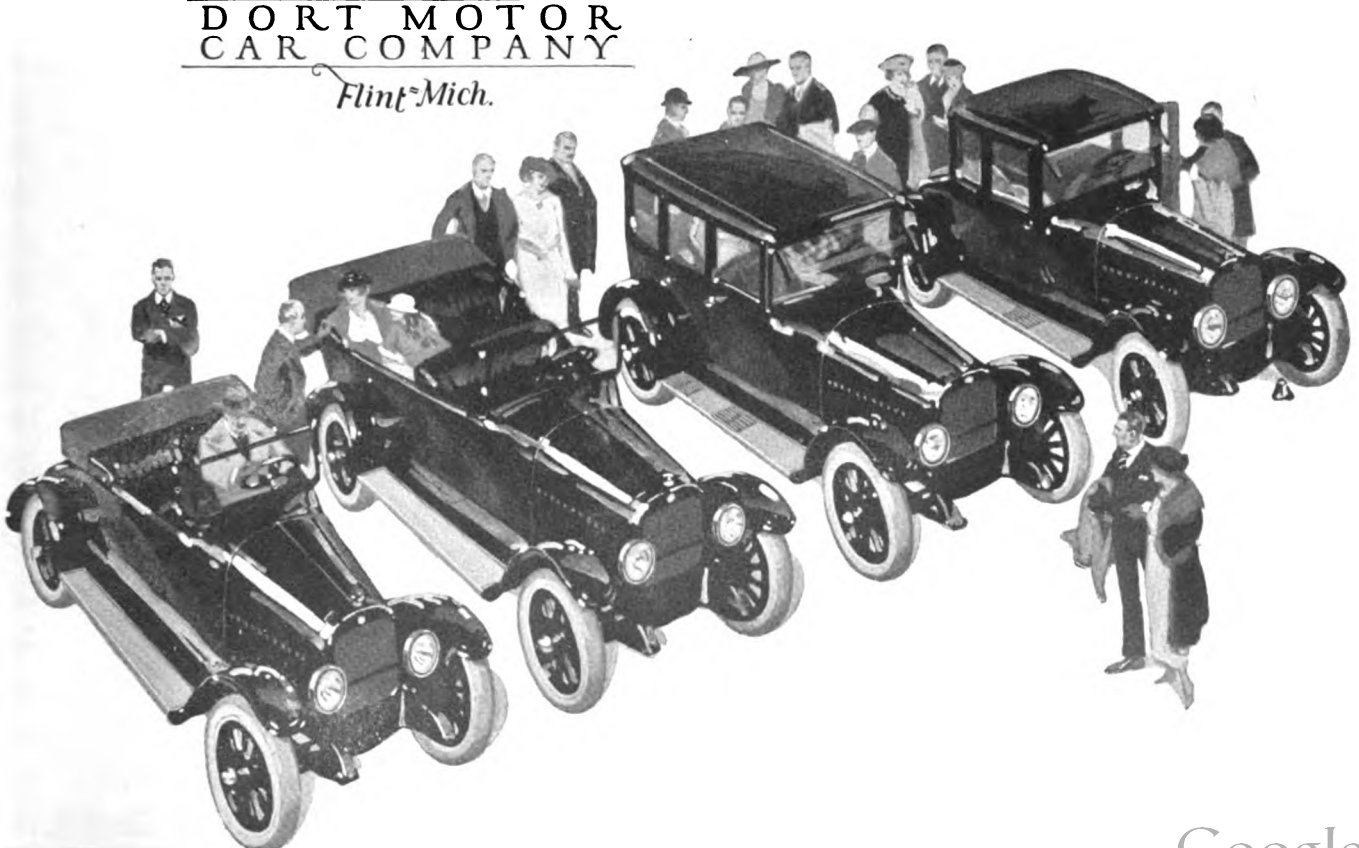
Only this attitude can account for the unusual spirit of mutual helpfulness that pervades the Dort retail selling organization.

PRICES
Effective Feb. 15

Touring Car	$1035
Roadster	1035
Fourseason Sedan	1665
Fourseason Coupe	1665

F. O. B. Factory
Wire wheels and spare tires extra
(193)

DORT MOTOR CAR COMPANY
Flint, Mich.



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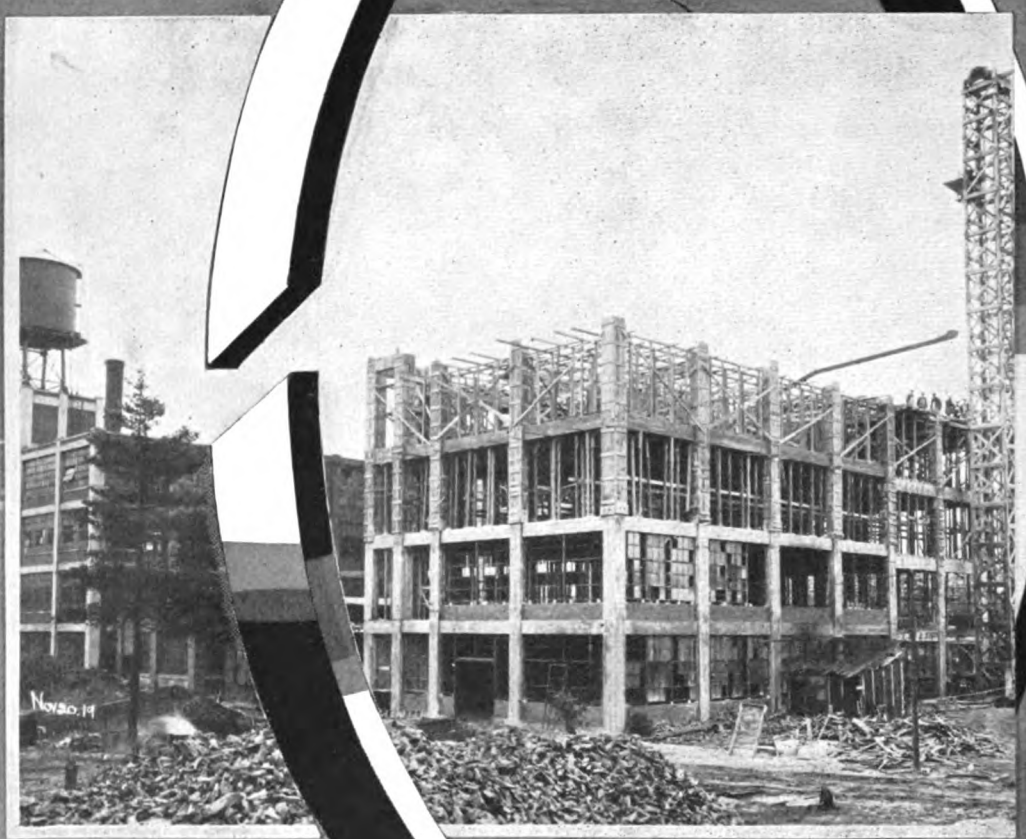
QUALITY SNAP RINGS

CONSERVE EVERY ATOM of POWER

An ever-increasing expansion means an ever-increasing Service



"MORE THAN A MILLION A MONTH"

THE Piston RING COMPANY

106 SANFORD ST. MUSKEGON, MICH.

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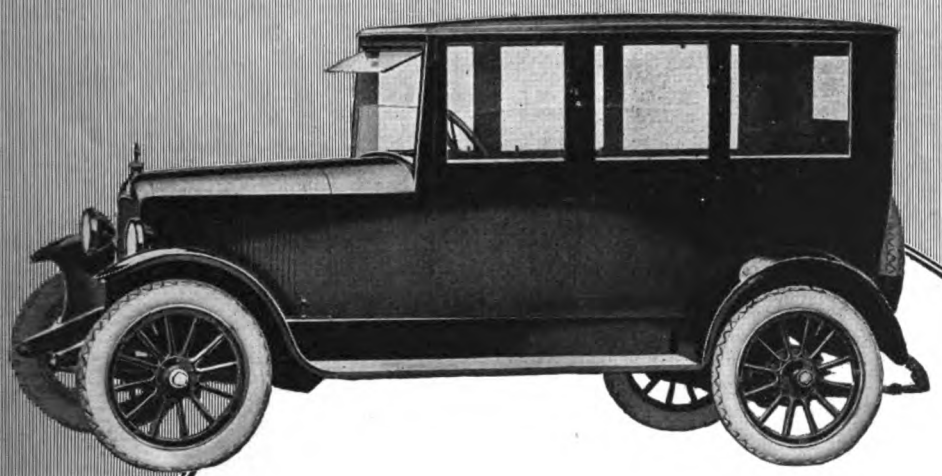


The Leader of Light-Weight Cars

BRISCOE

A Wonder-Car!

The Verdict of Thousands Who Saw It At the New York Show

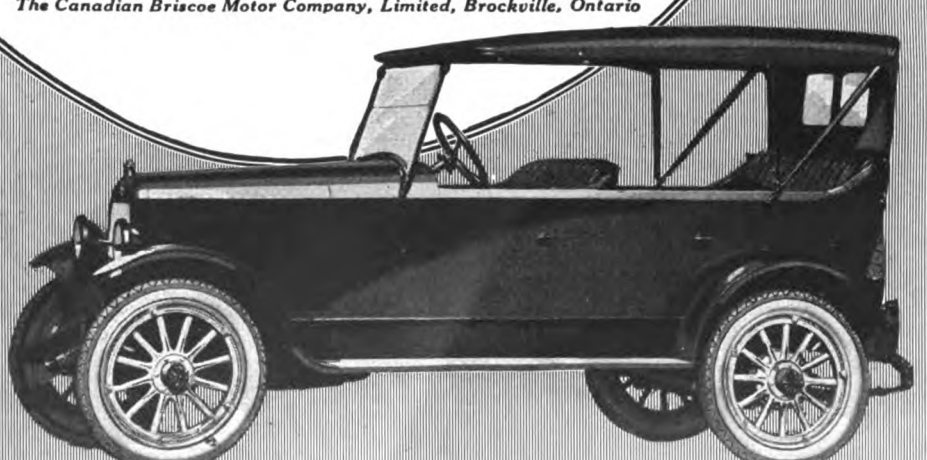
From both a mechanical and artistic standpoint the 1920 Briscoe has scored a distinct hit.

The clean-cut chassis, giving one the impression of a sturdy athlete stripped for action; the compact unit power-plant, emphasizing the features that have made Briscoe economy world-famous; the beautiful, distinctive body-lines, worthy of the highest-priced car built—these and a score of other features demonstrated Briscoe dominance in the light-car field.

See the three models—sedan, coupe and touring car. They are worth your careful study.

BRISCOE MOTOR CORPORATION
JACKSON, MICHIGAN

The Canadian Briscoe Motor Company, Limited, Brockville, Ontario



The Leader of Light-Weight Cars!

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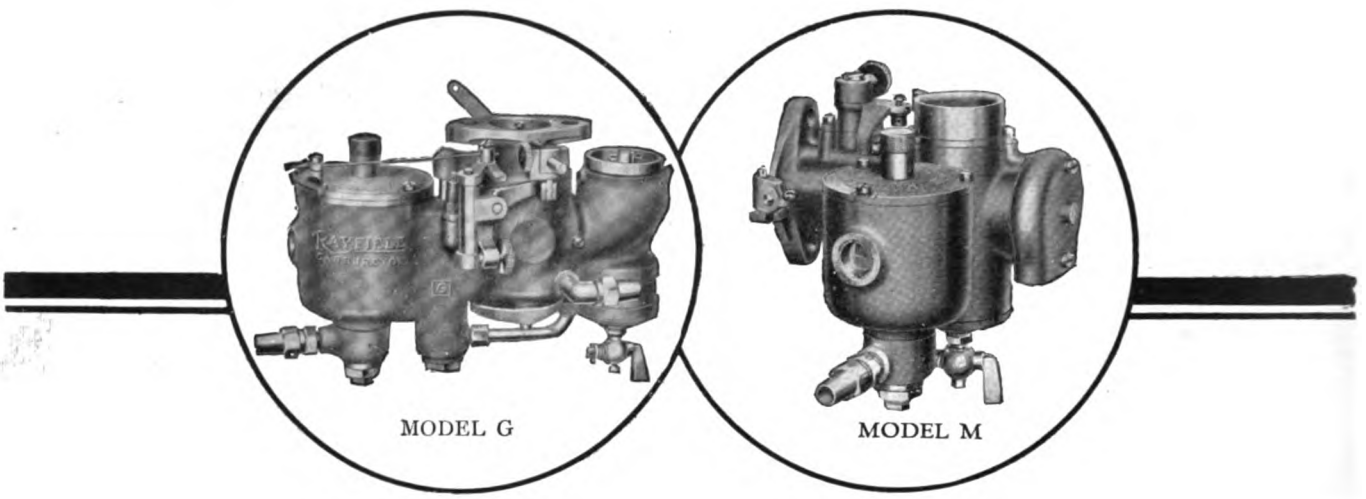
Rayfield Carburetors Add New Pleasures *to* Motoring



With a Rayfield Carburetor on your car the pleasures of motoring are increased.

You can shoot ahead in crowded traffic. Your car pulls through heavy roads without faltering.

Unusual economy is provided by the two Rayfield adjustments, one for idling and one for high speed.

Once properly adjusted, the Rayfied requires no further attention.

Ask your dealer to install a Rayfield for you. The results will make you, too, an enthusiastic Rayfield booster.

BENEKE & KROPF MFG. CO.

21st and Rockwell Sts. :: Chicago, Illinois

RAYFIELD CARBURETORS

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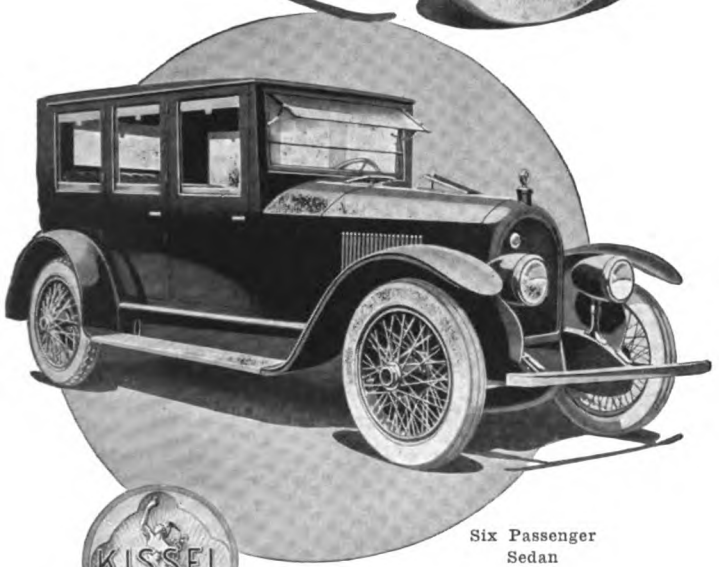
Four Passenger
Coupe



Six Passenger
Sedan

KISSEL Custom-Built Six

MOTORDOM'S Closed Car Premier Event—distinguished interpretations of custom-built skill and technique in which the exclusiveness of the Kissel open models is emphasized. Mounted on the Kissel custom-built chassis with the Kissel custom-built motor—

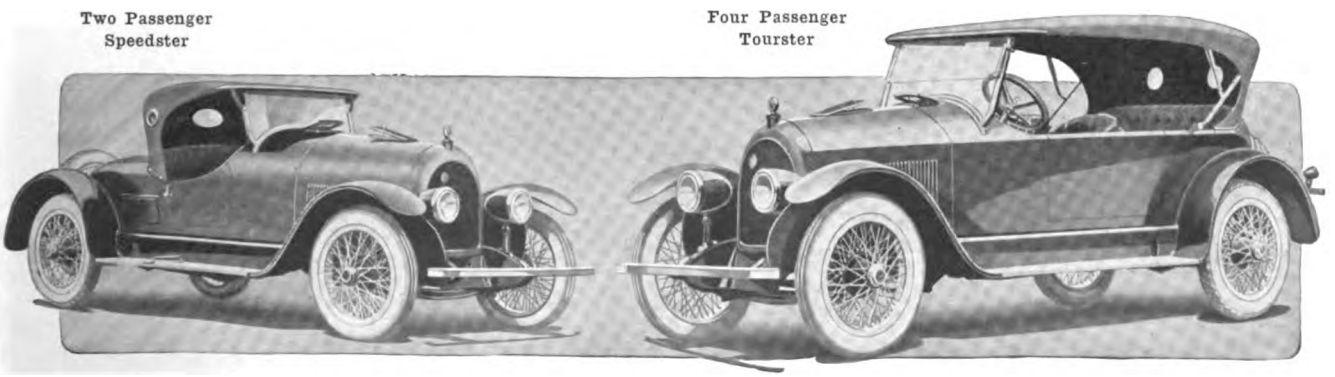
At the San Francisco Automobile Show—Feb. 21st to 28th, and at the Portland, Oregon, Automobile Show—Feb. 23rd to 29th.

De Luxe Brochure "The Aristocrats of Motordom" on request.

Kissel Motor Car Co.
Hartford, Wisconsin, U.S.A.
*"Originators of the **All-Year** Car"*

Two Passenger
Speedster

Four Passenger
Tourster



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PACIFIC COAST MOTOR TRUCK MANUFACTURERS

Will be interested to

KNOW

that

THE NATIONAL AXLE CORPORATION

Will shortly produce a complete line of exceptional

WORM DRIVE TRUCK AXLES

Right at Home in
CALIFORNIA

General Office
Rialto Building, SAN FRANCISCO

Plant at
SAN JOSE

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RACINE
Mitchell
WISCONSIN
U.S.A.

The Future Style Trend

Forecast by New Mitchell Design

These new Mitchell Sixes bring to motoring America its first accurate example of the coming style tendency. They now reveal the ideal toward which creators of motor car designs have long been working.

Striking reforms are seen in every detail. There is complete harmony throughout.

Viewed from any angle — from inside or out — the effect is impressive.

The long yacht-like sweep of the body is made doubly pleasing by an extended moulding and bevel crown. Note the graceful slanting lines of radiator, hood, windshield and doors. See how they express the gliding sensation one experiences when riding in these fashionably modern cars.

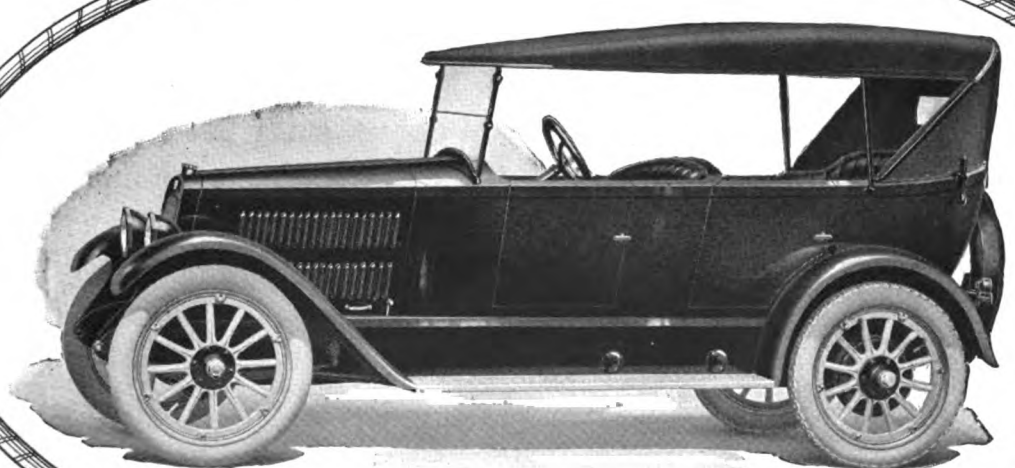
Inside the body will be found the handwork of master craftsmen. The manner of applying the upholstery, for example, shows the matchless care employed. Again in the comfortable roominess is the art of the master designer apparent.

Last season's Victory Model has definitely proved the advantages of Mitchell's many mechanical improvements. But we were not quite content with that success and now offer many additional betterments in chassis and motor.

Several important refinements have been made, and accuracy in manufacture has been much improved. These features and the new bodies complete the motor car sensation of the year.

Profitable opportunities are open to aggressive dealers. We invite correspondence relative to these new cars and the Mitchell sales plan.

MITCHELL MOTORS COMPANY, INC., RACINE, WISCONSIN



5-Passenger Touring Car
3-Passenger Roadster
5-Passenger Sedan
4-Passenger Coupe

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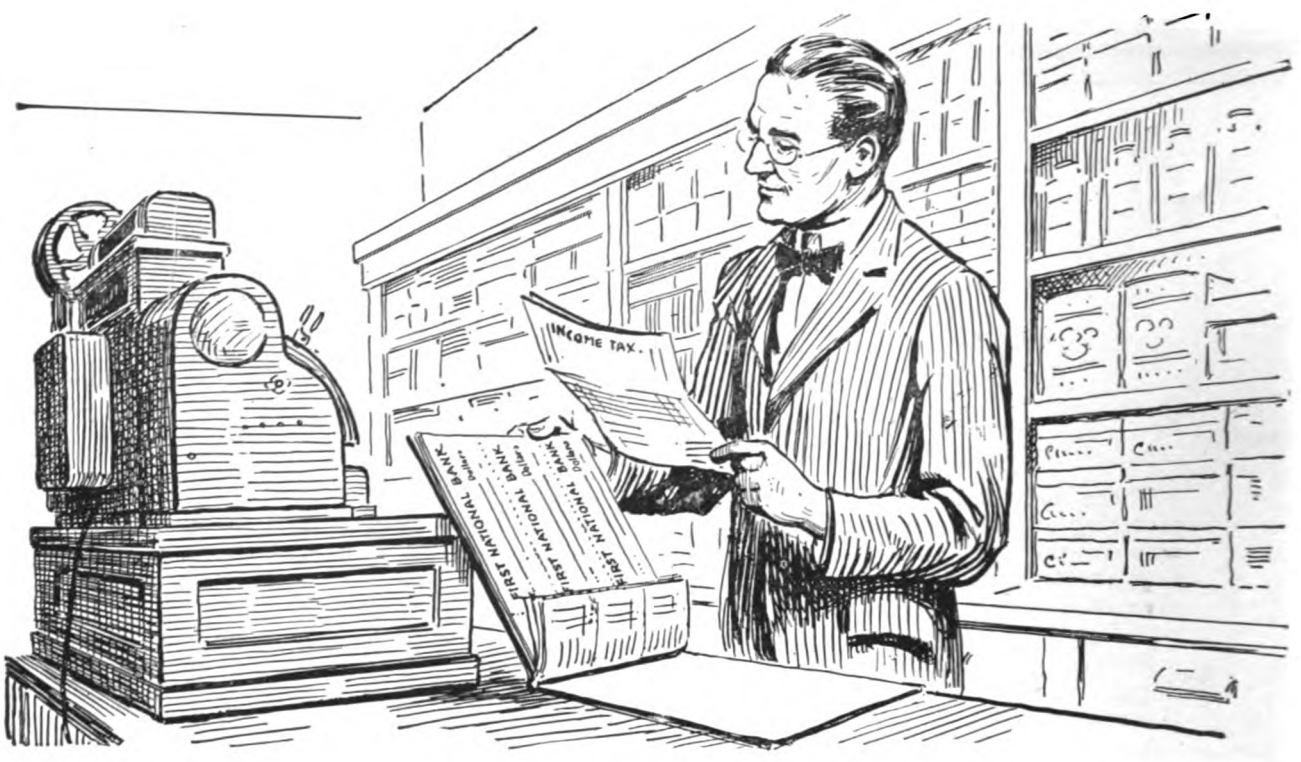

This merchant finds it easy to make out his income tax report

HE has a checking account at the bank and he uses an up-to-date National Cash Register.

From his bank check book and his bills he gets the cost of running his store, cost of merchandise bought, and a record of payments made.

From his National Cash Register he gets a record of ① cash sales, ② charge sales, ③ received on account, ④ petty cash paid out, and ⑤ clerks' sales.

These records give him control over his business every day of the year.

This merchant knows that his register records are complete and accurate, whether they are made when business in his store is quiet or when there is a rush of selling.

Without an up-to-date National Cash Register, these necessary figures would be hard to get, hard to keep, impossible to verify, and expensive to record.

An up-to-date National Cash Register will give you the records you need to control your business.

The National Cash Register Company
Dayton, Ohio
Offices in all the principal cities of the world

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GILL

The Perfect One Piece Piston Ring

This is a picture of "Mac." He is a corking good mechanic and a great booster for the Gill Piston Ring. "Mac" says you only have to show a motorist a Gill Ring to sell it and thousands of dealers all over the country have found this true to the advantage of their business.

What is the reason for this "Gill Enthusiasm"?

Look at the double step, interlocking joint and you will see for yourself. It allows an expansion of from $1/8$" to $3/16$" before any loss of compression occurs. In addition Gill Rings are made from single piece castings of special fine gray iron and machined to absolute accuracy. The easiest ring on the market to install, the easiest ring on the market to sell.

Send for the new Gill Piston Ring Size Directory, complete, convenient and full of just the information you need. It is free to the trade.

Dealers—Ask your jobbers about them
Jobbers—Write to us for information

The Gill Manufacturing Company
8301 South Chicago Avenue, Chicago, Illinois
Sole Foreign Agents:
AUTOMOTIVE PRODUCTS CORPORATION
Woolworth Building, New York, N. Y.

Gill Piston Ring Co.
803 Van Ness Ave.,
San Francisco, Cal.

Pacific Coast Branches:
Gill Piston Ring & Sales Co.
1522 S. Grand Ave.,
Los Angeles, Cal.

Gill Piston Ring Co.
723 E. Pike St., Seattle, Wash.

Gill Piston Ring Co.
409 Burnside St., Portland, Ore.

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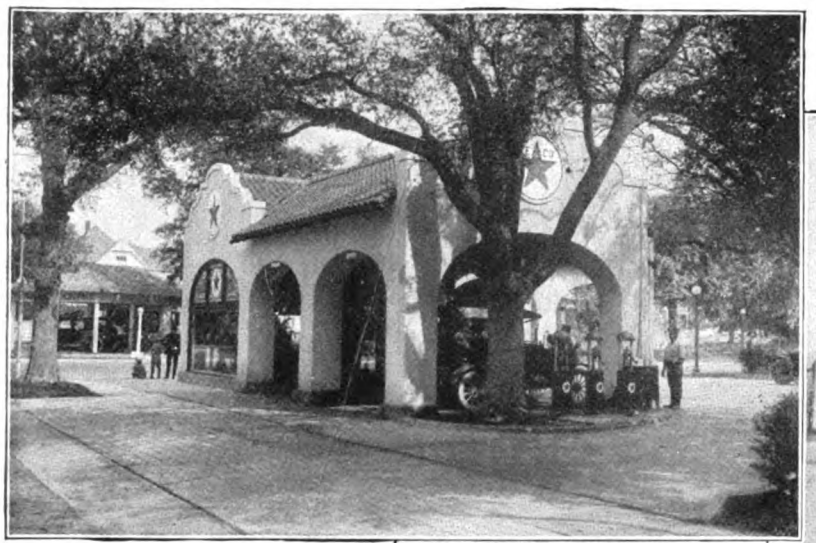

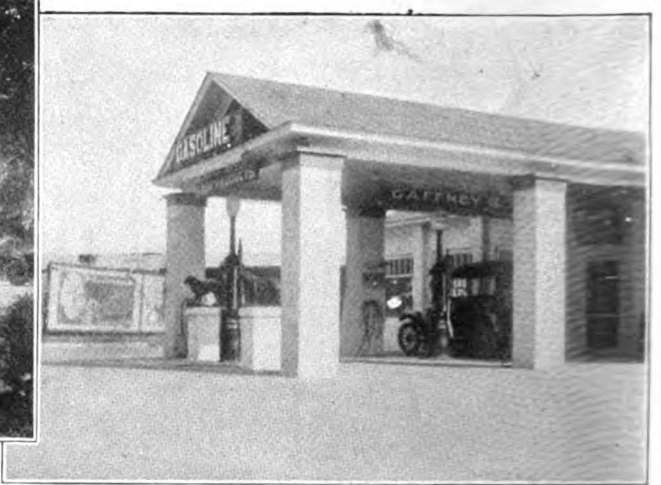

Above—Texas Company filling station at Houston, Texas; at right—Gaffney's fine station at Guthrie, Okla., and Humble station at Houston, Texas. All are Wayne equipped.

The finest, use—

Wayne Products

Measuring and non-measuring pumps
Portable wheel tanks — Dry cleaning systems
Oil storage systems — Underground tanks
Oil burning systems — Storage and control
Oil filtration systems — systems for liquids.
Furnaces for metal melting, metal forging and heat treating

Wayne

Honest Measure Pumps

Cut No. 280
One-gallon pump for gasoline at the curb.

LOOK in some day on any of the fine filling stations and garages of the country—you will find Wayne equipment in largest use.

Not that Wayne is "fancy equipment." Far from it. Wayne is merely the *best*—so naturally it is equipment in the fine filling stations and garages.

The qualities of geared meters, accurate dials and measuring, rugged strength and simple beauty of design make Wayne Pumps necessary in large and small establishments.

Wayne outfits are built and priced to meet every filling station and garage need, from smallest to largest. They insure perfect measure with no leakage and *no repairs*. (We have records of long years of active service with never a break, write for them.)

Your customers like the unmatched speed of the Wayne one-way handle movement; they like the easily read dial and computing scale, and the clear, filtered gasoline.

You will like Wayne dependability and fine looks with its exclusive features of push button quantity stops, counterbalanced cylindrical sliding housing, six-inch clock-like discharge register, geared meters, graduated computing scale and *two-year guarantee*. Our outfit for air and water at the curb, also, is a trade-builder in looks and service.

Write for Bulletins 280 MW, 276 MW, 11 MW and 320 MW, and complete information. Get Wayne working for *your profit.*

Cut No. 320
For lubricating oil at the curb.

Our factory is running at full capacity in an endeavor to meet the big demand for Wayne equipment. We must keep a close watch on Wayne quality, as it was Wayne quality that created the demand.

WAYNE OIL TANK & PUMP CO., 711 Canal Street, Ft. Wayne, Indiana

Sales Offices in All Large Cities—Representatives Everywhere

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What AMAZON *Means to Dealers*

DEALERS find Amazon Tires profitable to handle because Amazon Tires become a real "hobby" with their users. They continue to sell them because Amazon users have come to know what Amazon rubber means.

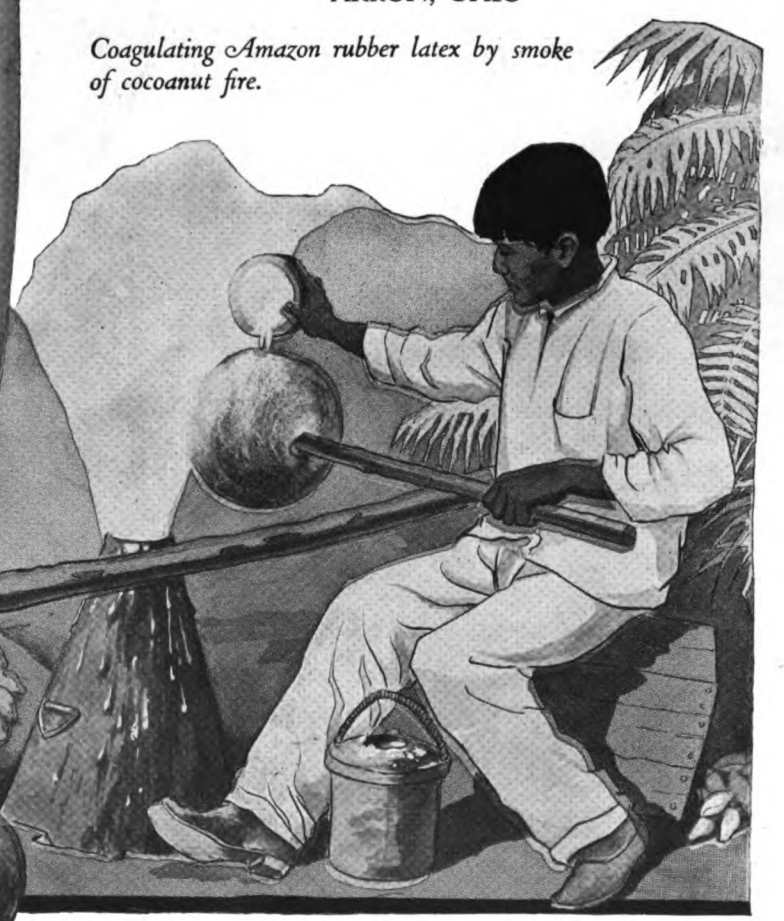
Amazon Tires have the same sturdiness as the native up-river Para rubber that goes into them. They have all the live rubber qualities found in the highest degree in the upper Amazon district where rubber tree growth is natural and most luxuriant.

This accounts for the sturdiness of Amazon Tires—for their ever increasing demand—for the success of Amazon dealers everywhere.

Dealers: Increased production now enables us to add a limited additional number of accounts. Write today for our proposition.

THE AMAZON RUBBER COMPANY
AKRON, OHIO

Coagulating Amazon rubber latex by smoke of cocoanut fire.



AMAZON

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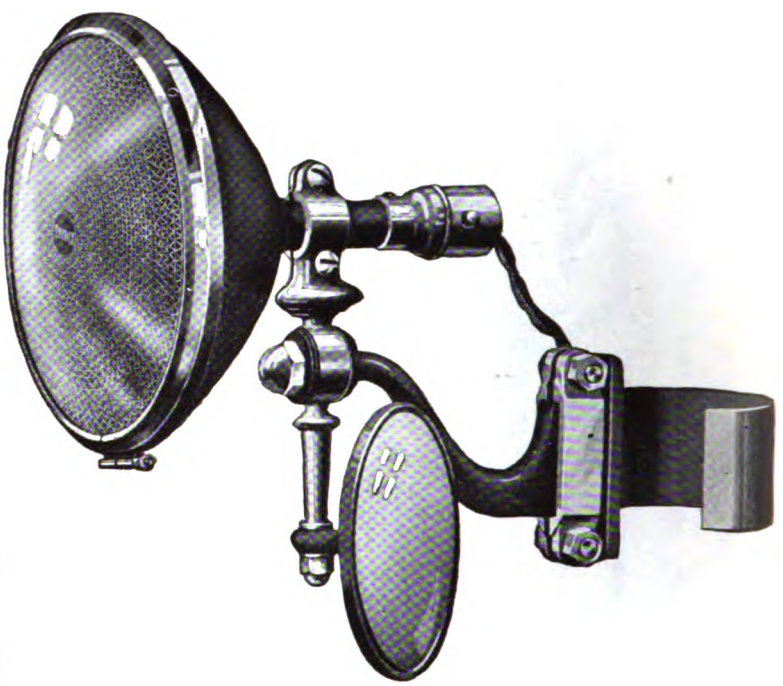
RAYDEX

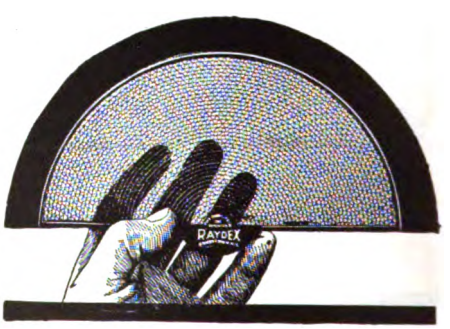


The Raydex Shaftlight

The aristocrat of spotlights. Made entirely of silver, aluminum and brass. Equipped with the Raydex Glassless, Glareless Lens which throws a clear, powerful, penetrating beam. Eliminates all glare without loss of light. Graceful, rich and rattle-proof. Universal bracket fits any car.

The Raydex Glassless Lens

Made entirely of highly polished metal. Each lens contains more than 9000 reflectors which concentrate and intensify the beam. Effect is far-reaching, brilliant road illumination. No glare. No absorption or diffusion of light. Legal in every state.



RAYDEX MANUFACTURING CO.
BRACKENRIDGE, PA.

Sales Department
Charles F. U. Kelly, Inc., 1834 Broadway, New York, N. Y.

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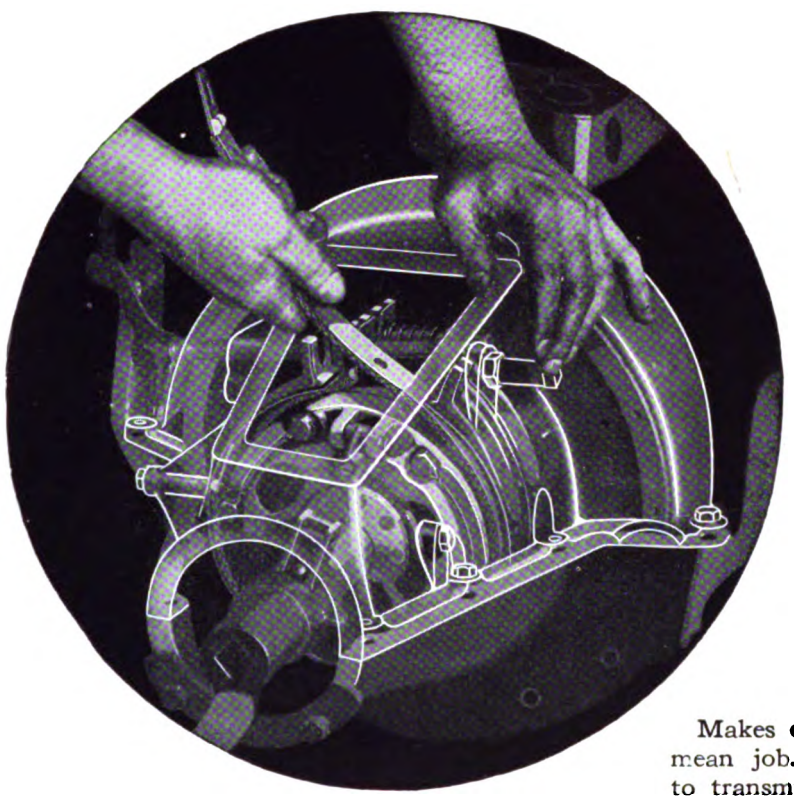
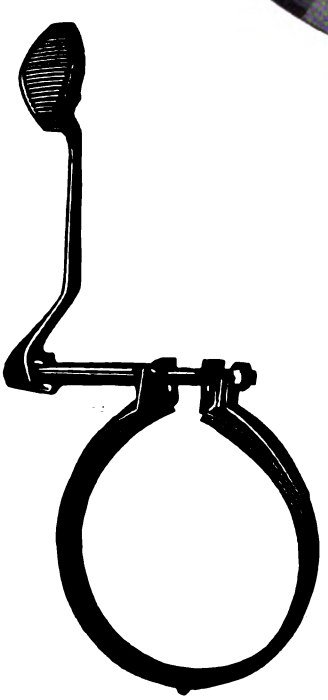
RAYDEX





The Raydex Reliner For Ford Transmissions

Makes easy work of an otherwise mean job. Just take off handplate to transmission case, pull out pedal and slip in Raydex Reliner. That's all there is to it once a Ford is equipped with Raydex Reliners for Ford transmissions. They eliminate necessity of tearing down entire transmission in order to change fabric.

Raydex Reliners are merely slidable bands of tough, half-hardened cold-rolled steel to which lining is securely riveted They slip around inside Ford transmission band quickly and easily. None of original Ford equipment is replaced or disturbed.

RAYDEX MANUFACTURING CO.
BRACKENRIDGE, PA.

Sales Department
Charles F. U. Kelly, Inc., 1834 Broadway, New York, N. Y.

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"But the tube must be a GOOD *tube!"*

THE PRIVATE BRAND TUBE has many advantages: It gives the Distributor an exclusive tube market in his own territory. It adds to the prestige of his business. It enables him to give a direct guarantee.

But the tube must be a good **tube.**

Hardman Celebrated Tubes have stood the test of years. Their character today under highly modernized producing facilities is even superior to that which made them famous. Hardman Tubes, both Red and Gray, are made of full floating stock.

Increased volume now enables us to devote a percentage of output to the Private Brand trade.

Immediate consideration given to inquiries into a splendid proposition.

"Old as the automobile!"

HARDMAN RUBBER CORPORATION

Executive Offices: 9 East 40th Street, New York.

Chicago Branch: 1712 So. Michigan Avenue.

Factories: New Brunswick, N. J.

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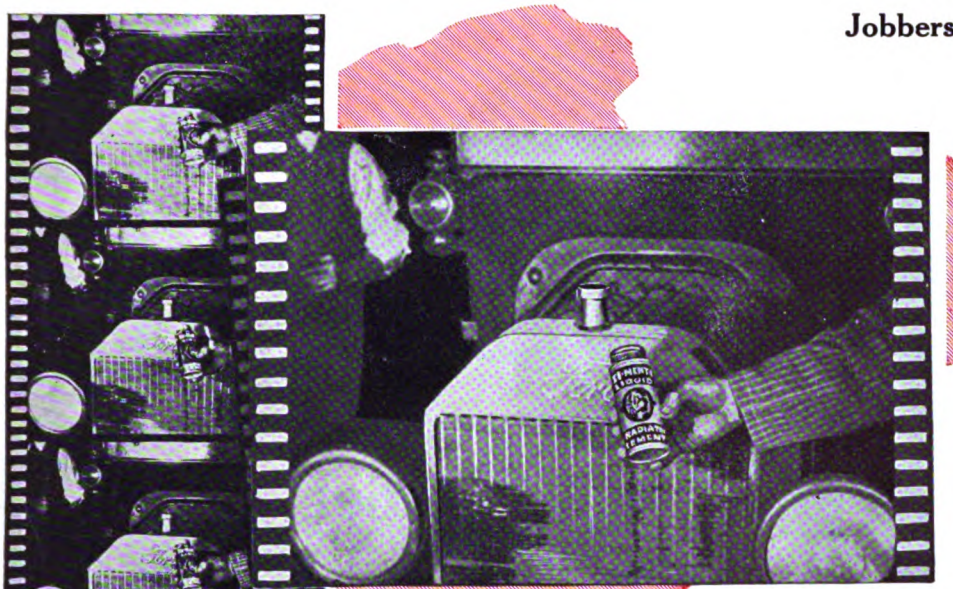

Jobbers Who Witnessed This Test:

S. K. WALLACE, G. Norman Baughman Co., Tampa, Fla.
A. J. HOPKINS, Canadian Fairbanks-Morse Co., Ltd., Montreal, Quebec.
E. V. PLANE, Carolina Tire & Accessory Co., Inc., Columbia, S. C.
G. B. SHEARER, Gaul, Derr & Shearer Co., Philadelphia, Pa.
J. N. WHITE, Ferris-Dunlap Auto Supply Co., Dallas, Texas.
A. A. WAYS, Ferris-Dunlap Auto Supply Co., Dallas, Texas.
A. J. JOHNSON, I. J. Cooper Rubber Co., Cincinnati, Ohio.
J. G. FITZSIMMONS, Carolina Auto Supply House, Charlotte, N. C.
W. H. VAN HORN, Pennsylvania Rubber & Supply Co., Oil City, Pa.
F. HAMILTON SUTER, Shadboldt & Boyd Iron Co., Milwaukee, Wis.
DUNBAR ABSTON, Ozborn-Abston & Co., Memphis, Tenn.
W. JUSTICE, Robinson Heavy Hardware Co., St. Joseph, Mo.
TROY B. WILDERMUTH, Front-Market Motor Sup. Co., Harrisburg, Pa.
H. B. SMITH, Pennsylvania Rubber & Supply Co., Cleveland, Ohio.
H. T. SCHLEININGER, Motor Car Equipment Co., New York, N. Y.
M. SHAPIRO, Gaul, Derr & Shearer Co., Philadelphia, Pa.
W. F. FERRIER, Fred Campbell Auto Supply Co., St. Louis, Mo.

With 17 Jobbers as Judge and Jury

Before a recent gathering of representative Auto Supply Jobbers in Marietta, Ohio, SE-MENT-OL Liquid was poured into a radiator that spurted water from several leaks. While the jobbers (names listed above) watched closely, SE-MENT-OL sealed every leak in less than ten seconds.

The permanency of SE-MENT-OL repairs was proven when a can, in which several leaks had been Se-Ment-Ol-sealed, was thrown time and again down a flight of concrete stairs, the can being demolished before a single leak opened up.

These tests with SE-MENT-OL and other Norwesco products were filmed and will be shown soon throughout the country, through the courtesy of jobbers.

The Northwestern Chemical Co.
2302 State St. :: Marietta, Ohio
U. S. A.

Canadian Factory: **Montreal**

SE-MENT-OL

The Radiator Repairer Guaranteed For the Life of the Car

Retails at 75c, Liquid or Powder.
WRITE FOR DEALERS' PROPOSITION.

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"Get Set"

Dealers, get set for real money NOW. This will be the greatest tire-selling year in history for Racine dealers. The Racine Line is a *proved profit line*. Racine Multi-Mile Cord and Country Road Fabric Tires—Extra Tested—are sure-fire leaders. They have exclusive Racine Absorbing Shock Strip. Racine Inner Tubes and Supreme Tire Sundries—Extra Tested—return quick profits.

Greatest National Advertising

Racine advertising will blanket the country—*your territory*. Racine dealers are given real sales support. Smashing pages in biggest publications mean continuous sales for Racine dealers.

Wonderful line of dealer helps.

Distributors located to give you real service.

Write for full details

RACINE RUBBER COMPANY
RACINE, WIS.

RACINE TIRES

RACINE RUBBER COMPANY · TIRES · EXTRA TESTED

EXTRA TESTED

Digitized by Google

Save Hours of Tiresome Grinding

CONSERVE time and labor,—increase shop efficiency twenty times over and thereby reduce your overhead and increase your profits by refacing and reseating valves the efficient **Sioux Way.**

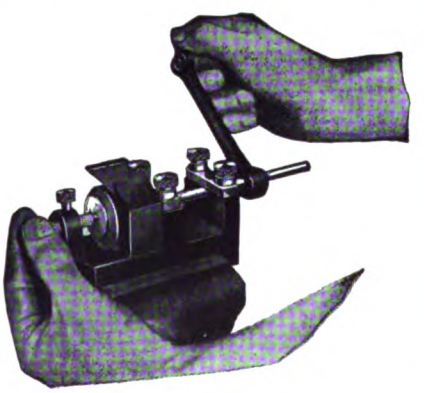
SIOUX REAMER Insures accurate grinding of valve seats. Makes perfect fitting valves in one-twentieth the time required by the old method. Is absolutely accurate. Note how reamer shank keeps reamer perfectly centered and insures accurate cutting.

SIOUX REFACING TOOL Applies same principle and smooths the face of the valve in short order. Works like a miniature lathe. A few turns fits the valve perfectly to the valve seat.

SIOUX SERVICE We keep Sioux Tools ground and sharpened. All you pay is transportation charges. Workmanship and material guaranteed.

Your Jobber Sells Sioux Tools

ALBERTSON & CO. -:- SIOUX CITY, IA.

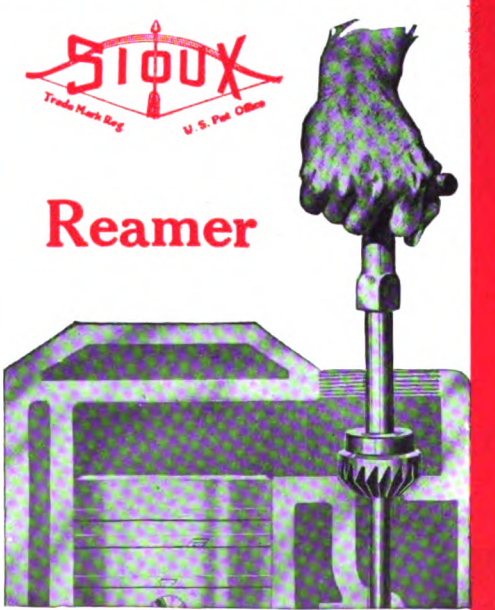


PATENTED
FEB. 17, 1914 NOV. 26, 1918

Refacing Tool

SIOUX
Trade Mark Reg. U. S. Pat. Office

Reamer



PATENTED
FEB. 17, 1914 NOV. 26, 1918

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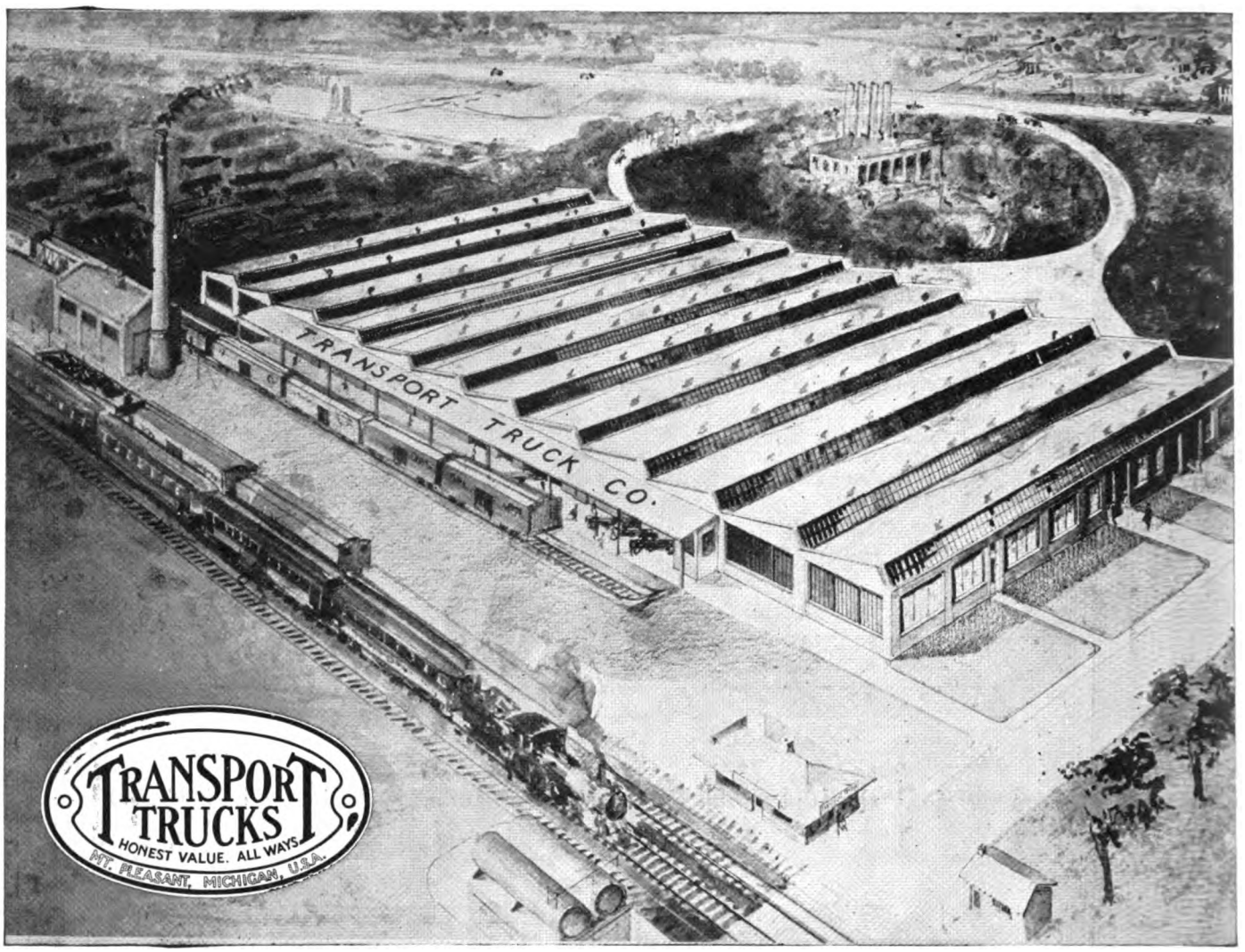
Transport Demand Calls



THE Transport Truck Factory at Mt. Pleasant, Mich., built in 1919, is one of the finest examples of plants built exclusively for truck production. With its own heat-treating equipment, and the latest machinery for truck manufacture at the command of the best engineering ability, this institution (the Transport Truck Company) has produced the Frictionless Truck.

1-ton, $1750 **1-½ ton, $2050** **2-ton, $2585**

TRANSPORT

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for TRIPLE the Output

THE phenomenal success of Transport is due to the most rigid standard of truck inspection yet adopted.

No Transport Truck leaves the factory until it tests to the *utmost accuracy* of measurement and balance possible to truck building science.

It is performance based on this principle that necessitates the tripling of the Transport factory's capacity.

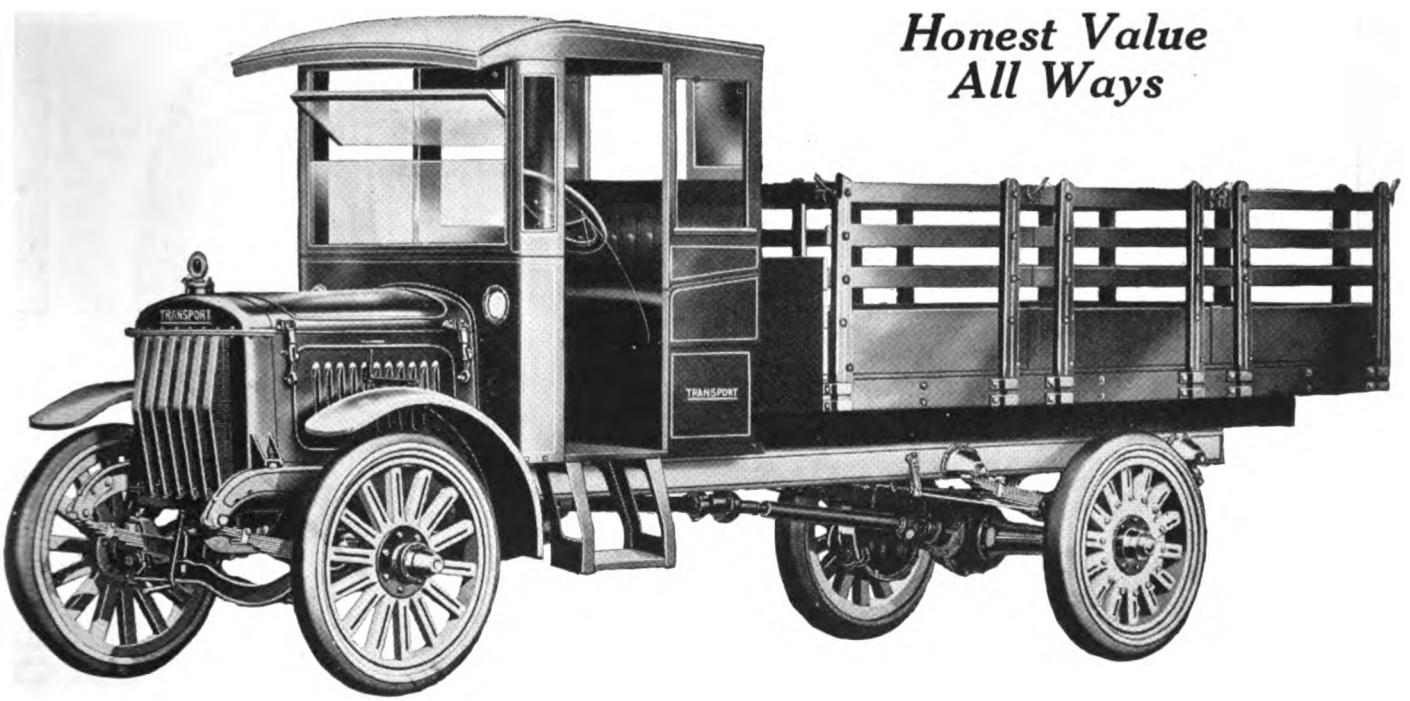
Transport Truck Company
Mt. Pleasant, Michigan

D. F. POYER & SON
1312 So. Los Angeles St.
Los Angeles, Cal.

CALIFORNIA OLYMPIAN CO.
704 Market Street
San Francisco, Cal.

NORTHWEST TRANSPORT TRUCK CO.
512 Railroad Avenue
Spokane, Wash.

SEABOARD MOTORS COMPANY
309 East Pine Street
Seattle, Wash.



Internal Gear Drive TRUCKS

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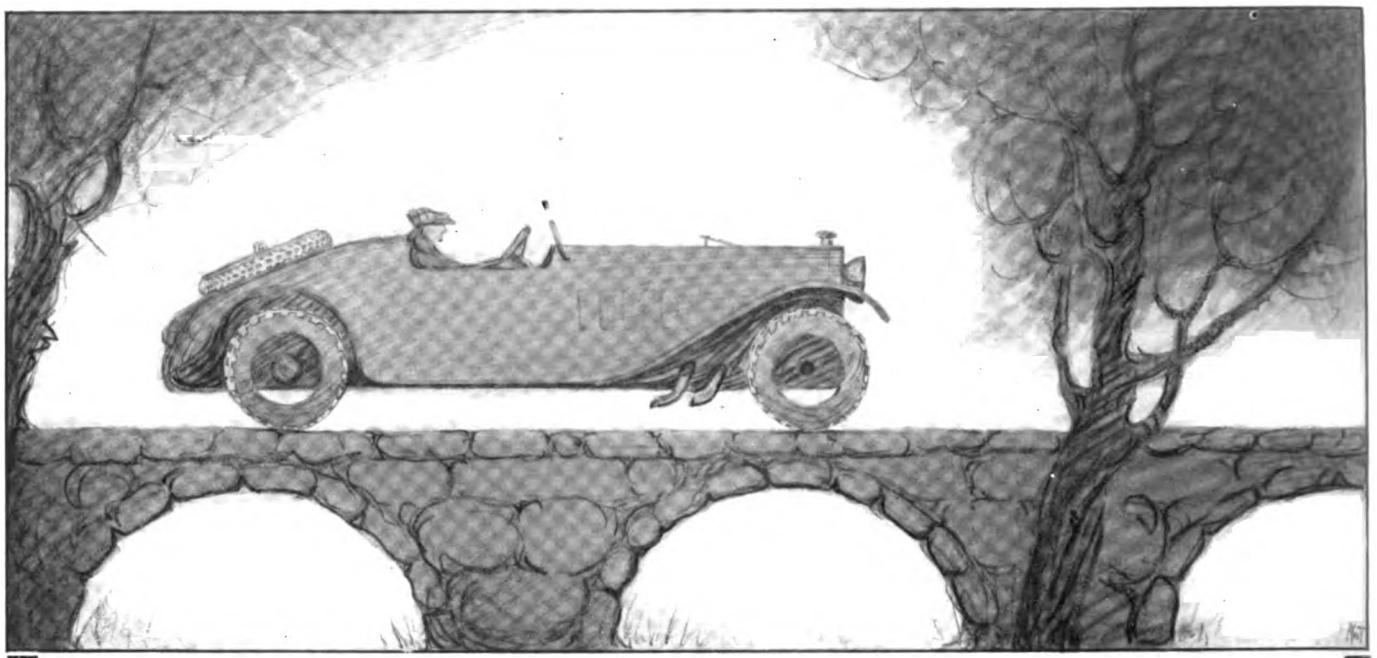

Stop Accidents by Skidding

Sell the only *real* Vacuum Non-Skid Tread Tire

Every Sterling vacuum non-skid tread tire that you sell is your purchaser's assurance against skidding or side-slip, in any weather and on any road.

In addition, the non-skid feature actually lasts the length of the guarantee. **90%** of Sterling Tires go farther than 8,000 miles, the guarantee.

74% of Sterling Tires go to satisfy men and women who have already purchased Sterlings.

Increased tire business, for you, must come from selling a tire of this class. The above figures are really records in the tire business, as you know. To acquaint tire users with Sterling Tires, in this territory, a real advertising campaign is run for dealers in their own territory. Likewise, the margin of profit is excellent, especially when considered along with a 74% repeat business that assures rapid turnover.

Interested dealers should wire or write for territory and proposition to

CHAS. A. WARREN CO., Inc.
Distributors
575 Market Street :: San Francisco, Cal.

Super Size **Sterling Tires** **Cured on Airbags**

TRADE MARK

Cord and Fabric

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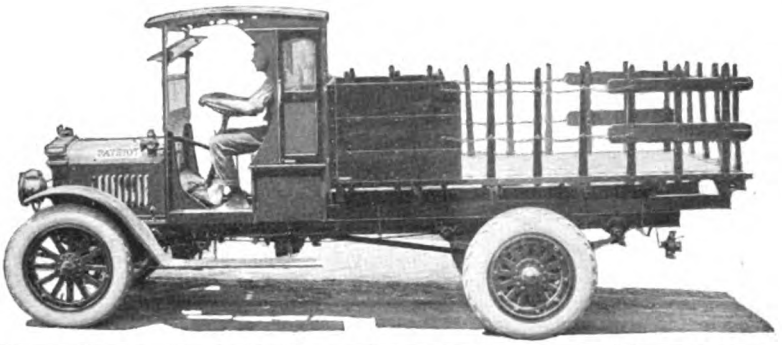


PATRIOT
Motor Trucks

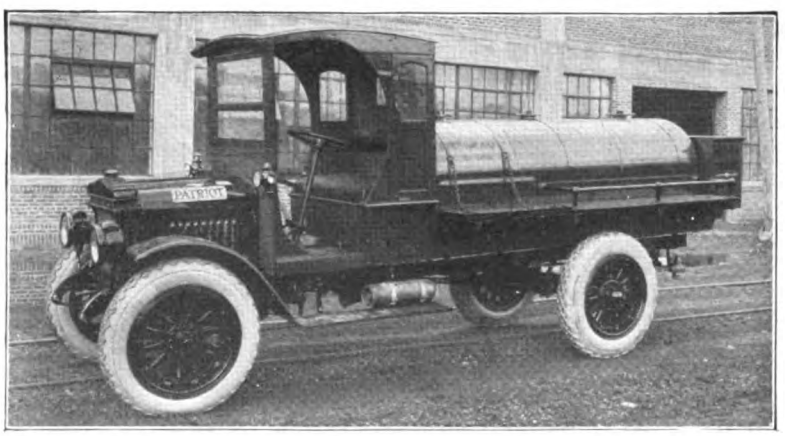
The ability of patriot Motor Trucks to stand up under the worst possible conditions of road, load and weather is the reason for the tremendous increase in demand for Patriot Trucks.

Wherever the Patriot has been introduced, distributors and dealers have had a real surprise in the immediate response from truck buyers looking for just such unusual performance as Patriot delivers. The Patriot is a good truck to sell for the same reasons that it is a good truck to own.

Write or Wire for Our Proposition If We Are Not Represented in Your Territory

HEBB MOTORS CO. 1387 P St., Lincoln, Nebr.

Revere Model	Lincoln Model	Washington Model
1500 to 2500 lbs. Capacity	3000 to 5000 lbs. Capacity	5000 to 7500 lbs. Capacity



One of a fleet of Patriot Trucks used by The National Refining Co.

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FROM the forest districts of Washington to the deserts of the Southwest—from the California beaches to the Rocky Mountains—in fact, all over the West you'll find Samson tires giving faithful service. The West is proud of the Samson tire. It reflects the Western spirit of of progressiveness, sturdiness, strength and dependability.

If you appreciate QUALITY at a **just price**—you'll like Samson Tires.

SAMSON TIRES

BUY THEM FROM YOUR DEALER

LIST PRICES—SAMSON TIRES AND TUBES

Size—	PLAIN TREAD	NON-SK. TREAD	GRAY TUBE	RED TUBE
A 30x3	$16.45	$18.45	$3.45	$3.75
A 30x3½	21.45	24.35	3.90	4.60
A 31x3½	22.00	25.00	4.00	4.80
BC 32x3½	24.10	27.10	4.25	5.05
34x3½	....	....	4.60	5.45
A 31x4	30.55	34.30	5.45	6.00
BC 32x4	32.45	36.55	5.60	6.15
BC 33x4	$32.65	$37.30	$5.75	$6.35
B 34x4	34.40	39.25	5.90	6.45
C 35x4	36.00	39.95	6.00	6.70
BC 36x4	37.20	40.20	6.20	6.80
32x4½	....	....	6.60	7.70
BC 33x4½	38.45	46.40	6.70	7.95
B 34x4½	38.65	46.85	6.85	8.15
BC 35x4½	$41.20	$48.25	$7.10	$8.35
B 36x4½	41.90	48.75	7.35	8.65
BC 37x4½	42.30	49.35	7.60	8.95
33x5	....	....	8.30	9.55
BC 35x5	54.10	61.95	8.50	9.75
BC 36x5	54.80	62.85	8.80	9.95
BC 37x5	56.05	64.65	9.00	10.25

A—Clincher. B—Straight side. C—Quick Detachable.

SAMSON TIRE & RUBBER CORPORATION

Executive and General Sales Office, 333 W. Pico, Los Angeles Pico at Grand (Wholesale Only)

Please Mention "Motor West" When Writing to the Advertiser

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TRAYLOR

Why our dealers must make good

For many years the Traylor Engineering and Manufacturing Company have enjoyed the highest reputation in engineering, manufacturing and financial circles. The TRAYLOR Truck we know will continue to uphold that reputation. Our fully equipped factories are prepared to DELIVER big production and have started their work. Our Sales Department is going to put TRAYLOR Trucks in service throughout the world. And this entire organization is back of our dealers.

Each and every one of our dealers must make good—to us, to himself and to the TRAYLOR Truck buyer. We want the dealer who wants to build a permanent, profitable business. If you are the man who can keep up the pace we are going to set through our advertising and sales campaign, write or wire us for exclusive dealer proposition.

Traylor Engineering & Manufacturing Company

Truck and Tractor Division **Cornwells, Penna.**

2½-Ton Specifications

ENGINE—Buda Model HTU latest type for heavy duty work. Bore, 4¼ in.; stroke, 5½ in.

GOVERNOR—Pierce Governor.

CARBURETOR—Zenith.

IGNITION—Splitdorf Aero type magneto. Model 448, with enclosed automatic impulse starter.

RADIATOR—G. & O. make (square fin and tube removable core). Upper and lower tanks are cast. Extra large filler and cap.

CLUTCH—Multiple dry disc type.

CONTROL—Left side drive, center control. Spark and throttle control on dash, leaving steering wheel free of complicated levers. Specially designed foot accelerator.

STEERING GEAR—Ross—screw and nut type 18 in. wheel.

TRANSMISSION—Four speeds forward and one reverse. Selective type.

SPRINGS—Chrome silico manganese steel throughout. Front, 40 in. long, 2¾ in. wide; rear, 52 in. long, 3 in. wide. All eyes bronze-bushed.

FRAME—Pressed steel channel section, 6¼ in. deep; 4 in. width of flange, ¼ in. thick. Reinforced with rigid arched pressed steel across members.

AXLES—Front, drop-forged I-beam section. Rear, worm gear Sheldon semi-floating axle, equipped with ball bearings throughout. 7¾ to 1 standard reduction.

BRAKES Foot brake, internal expanding, 18 in. in diameter. Emergency brake, 18 in. diameter. All brakes inclosed.

WHEELS—Schwarz artillery type with interlocking spokes. Front, 12 spokes, 2 in. wide; rear, 14 spokes, 2½ in. wide.

TIRES—Solid. Front. 36 x 4 rear, 36 x 7 single or 36 x 4 dual,

WHEEL BASE—Standard 150 in.; length of frame back of seat, 142 in. Special wheel base, 170 in.; length of frame back of seat, 164 in.

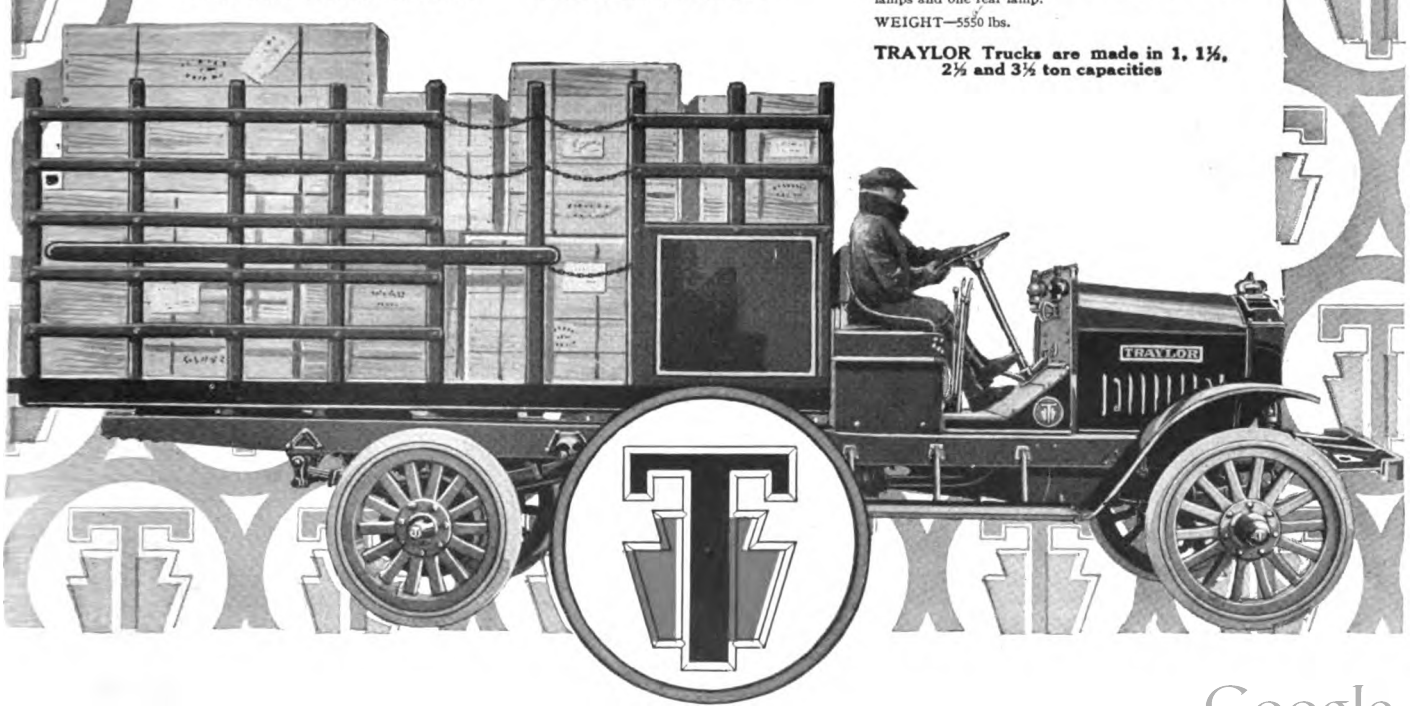
TREAD—Front, 56 in.; rear, 58 in.

GAS TANK—Heavy welded steel, 20-gallon capacity.

EQUIPMENT—Heavy channel steel bumper. Jack and set of tools, tool box, driver's seat, two front side lamps and one rear lamp.

WEIGHT—5550 lbs.

TRAYLOR Trucks are made in 1, 1½, 2½ and 3½ ton capacities



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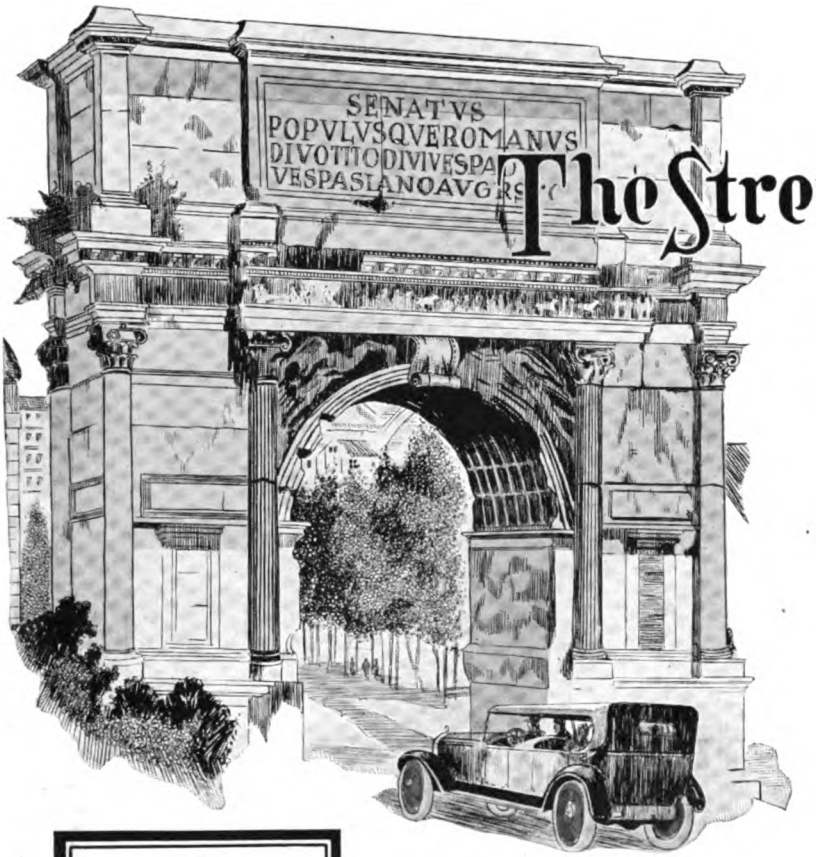


The Strength of the Arch

—The old Roman builders understood mechanics, Arches, which have stood for nearly 20 centuries, testify to that.

The arched construction is one of the builder's fundamental guides. It offers the two-fold advantage of maximum strength with minimum weight.

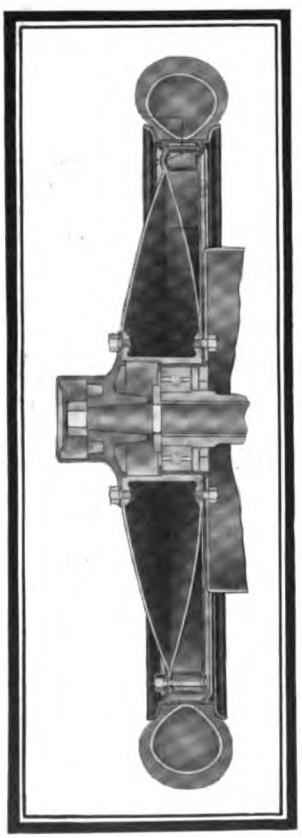
You will find it exemplified in bridges, in towers, in skyscrapers.

The most modern of Automobile Wheels is built upon this principle.

The problem was to build a wheel that would not "dish"—a wheel so strong that neither lateral nor longitudinal stress could destroy its perfect alignment.

European experience pointed to the disc principle.

Louis B. Harvey worked upon this principle until he achieved a disc wheel of undreamed-of strength.



The Harvey Steel Wheel consists of three discs.

The arching bulge of the two outer discs makes the Harvey Wheel hollow. The third disc reinforces the arches of the other two. There is the secret of Harvey strength. The "side-load-test" which crumples an ordinary wheel over the axle, will not feaze this wheel.

And it is a wheel of new conveniences.

The rim is simplified so that the problem of tire changing is reduced to a task of a minute and a half. The Harvey Wheel is a three-piece rim—a mechanical masterpiece—so simple—so complete that the tire can be removed from this rim without the use of tire irons.

And then all unnecessary bolts have been eliminated. Everything, apparently that could be done to make the Harvey Wheel run silently and effortlessly has been done. It runs 100% true.

Every means that could be thought of to improve wheel construction has been investigated.

A way has been found to make the tire valves accessible from the outside—a significant refinement in disc wheel construction.

The wheel complete is the superlative of convenience, of beauty, of strength.

The story of the Harvey Wheel is told in a very attractive booklet—"Distinctiveness in Auto-Wheels." It will be mailed, on receipt of a 2c stamp, to any motor enthusiast.

Dealers interested in our terms, are urged to communicate as early as possible.

HARVEY

HARVEY RIM & WHEEL CO.

HARVEY

BUFFALO U.S.A.

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STANWOOD

WHIPPET TREAD

Cord Tires

STANWOOD MILEAGE is of the character demanded by the modern motorist as a right. Mileage that is not only long-drawn-out, but CARE FREE.

Wrought into the substance of STANWOOD TIRES—Cord, Fabric and Truck Pneumatic—is an immense capacity for resisting the forces that punish in service. Essentially the tires for long roads.

Stanwood Contract for 1920 is a document worthy of study by high-class Distributors.

NOTE: Also STANWOOD Full Floating Tubes, Red and Gray, and a complete line of Repair Materials.

STANWOOD RUBBER COMPANY, Inc.

Executive Offices: 9 East Fortieth Street, New York City

Chicago Branch: 1712 So. Michigan Ave. Plant: Elizabeth, N. J.

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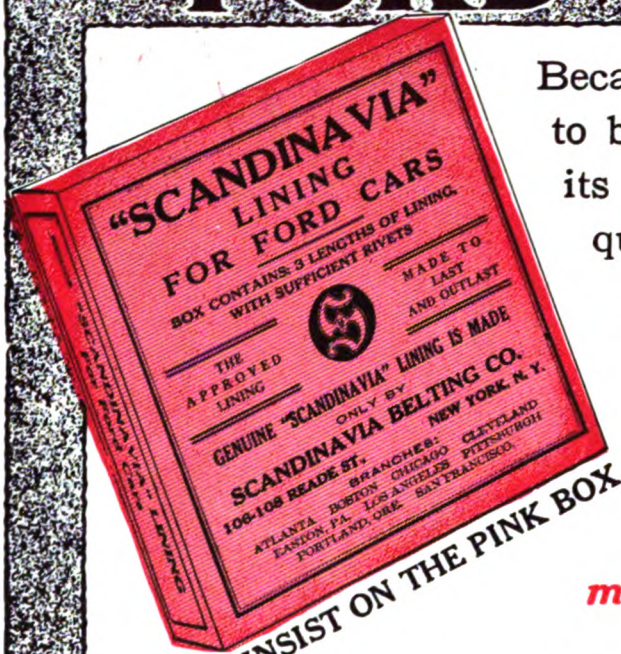
SCANDINAVIA

TRADE MARK REGISTERED IN U.S. PATENT OFFICE

BRAKE LINING for FORD CARS



INSIST ON THE PINK BOX.

Because it has proven itself to be all economy through its unusual long wearing qualities, and its satisfactory service during long usage—

Scandinavia has been the accepted lining for Fords for many years.

AS EFFICIENT AS AN AIR BRAKE--THE LINING DE LUXE FOR FORD CARS

Scandinavia is made especially for Ford use. The hot, oily condition of the Planetary Transmission cannot harm it.

It will not chatter or glaze.

It is wear proof.

It is made of the best long staple cotton interwoven into a compact fabric, especially impregnated, processed and hardened to resist heat, oil and grit.

ATTRACTIVE PROPOSITION TO JOBBER AND DEALER.

SCANDINAVIA BELTING CO., 106 READE STREET NEW YORK, N. Y

BRANCHES: Atlanta, Boston, Chicago, Cleveland, Easton, Pa., Pittsburgh. San Francisco. Los Angeles. Portland, Ore.

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Motor West

THE MOTORING AUTHORITY OF THE PACIFIC COAST

VOL. XXXII, No. 9 FEBRUARY 15, 1920 $2.00 PER YEAR

VISITING MEXICO TO IMPROVE TRADE

Business Men of Three States Make a Two-Weeks Trip Down West Coast, Partly in Automobiles.

It is said that Carranza's reason for using 60 per cent of Mexico's income for army expenses is not so much to down banditry as to keep contented a number of generals and their following; and that if his plans were broader, resulting in more prosperity, opportunists would unseat him muy pronto.

Be that as it may, Mexico is improving. Train service is far from perfect, but the magnificent station in Monterey, important distributing center, has been rebuilt. Some months ago a trainload of Middle West business men were astonished at the betterments everywhere.

Early in February more than 70 business men of Arizona, Texas and California went on the second annual excursion of the Nogales Chamber of Commerce down the West coast, through the states of Sonora and Sinaloa, to Mazatlan; a two-weeks trip. The plan included automobile trips inland, one to the plantation of Las Mochis Agricultural Union, largest exporter of vegetables in Northern Mexico.

It is believed that with satisfactory credit arrangements there is great opportunity for trade development down there. The total commerce between Mexico and the United States in 1918 amounted to $245,613,991.

Great Foreign Trade Meeting.

American business men located in all parts of the world will attend the seventh national convention of the National Foreign Trade Council, May 12-15, in San Francisco. Pacific Coast concerns are urged to attend. Details are obtainable from O. K. Davis, the secretary, 1 Hanover Square, New York City. The purpose is to promote foreign trade and policies. Many will come from distant lands on special steamers and from New York a steamer will come via Panama Canal. Three special trains will cross the country, stopping at all centers of foreign trade, Pacific Coast products will be exhibited at San Francisco, and, in connection, exhibits of South American and Australasian products at Los Angeles, and of Far Eastern products at Seattle.

Coast Welcomes Rainfall.

Beneficent rains fell all over the Coast region, the past few days, in many parts exceeding the precipitation of last year for the same period. The dollar-a-drop stuff was welcome. When it is delayed, as this season, there is always anxiety, but it is claimed the records do not show a single year of actual drouth. In Southern California, water conservation is making progress, and it has been suggested that as Los Angeles' average annual humidity, for example, is within 3 per cent of that of Chicago, mulching cultivated ground as for dry farming would help much.

Glidden Tour Entry Fee $1,000.

Until March 15, entry fee for the Glidden tour across the country in September will be $1,000. After March 15 the fee will be $1,500. The difference, it is hoped, will assure a majority of entries promptly, so that proper arrangements can be made for the great trek from the Bay State to the Golden Gate.

Seeking Site for L. A. Show.

Not exactly as easy as sightseeing is the site-seeking task of the committee of the Los Angeles Motor Car Dealers' Association, in quest of a suitable place for the annual automobile show. The committee is composed of Harold W. Tuttle, assistant general manager of the Howard Automobile Co.; J. E. Brown, manager of the Don Lee organization; and L. R. Wadsworth.

Frank Carroll Becomes Ill.

Frank Carroll, Goodyear manager trip to San Diego recently, and Mrs. Carroll went from San Francisco to be with him.

PACIFIC COAST'S FIRST AERO SHOW

San Francisco Wins in Contest for Huge Exhibition to be Staged in Auditorium, April 21-28.

From April 21 to April 28, inclusive, San Francisco's great Auditorium will house the Pacific Coast's first aeronautical show, promoted by the Manufacturers' Aircraft Association and sanctioned by the Pacific Aero Club. It will be managed by Walter Hempel. S. S. Bibbero, secretary of the club, is conferring with men prominent in automotive and other lines of business relative to plans for so advertising the event as to greatly facilitate the inevitable big business in the sale and commercial and other uses of aircraft.

It is stated that San Francisco won, in seeking this event, against efforts directed from Los Angeles, Kansas City, New Orleans and Atlanta. Similar shows have been held with great success in New York and Chicago. The plan is to have the exhibits include aerial touring limousines, famous European battle planes, giant mail planes, racing planes, commercial planes, huge dirigibles, aircraft guns, machine guns, bombs, etc.

Directs Firestone on Coast.

The Firestone Tire & Rubber Co. announces the appointment of L. R. Jackson as manager of the Pacific Coast district, with headquarters in San Francisco. He has been with Firestone for eight years. The recent sales program calls for marketing $150,000,000 worth of tires, of which the Pacific Coast territory will handle a large quota.

Renstrom Expands Sales Domain.

Arizona has been added to the California and Nevada territories controlled by the Frank O. Renstrom Co., of San Francisco and Los Angeles, distributors of Grant and Briscoe cars, Atterbury trucks and Twin-City tractors.

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FLYING BODY IS FORMED ON COAST

Aero Club of Southern California Organized in Los Angeles With a Membership of 112.

An aviation baby, measuring 112 members from tip to tip, was born in the assembly room of the Alexandria Hotel in Los Angeles Tuesday night, February 10. Its baptismal name is Aero Club of Southern California. On February 24 the ground work of its organization committee will be acted upon, permanent officers elected, and it will spread its wings for a non-stop flight, phases of which will be development of business which the godfathers of the baby believe will in due time amount to $50,000,000 a year, and a membership growth that may even equal that of the Automobile Club of Southern California, which was announced to be 33,305.

The roomful of enthusiasts, numbering more than 300, was told that a wealthy Pasadena man, name not ready to be divulged, had donated $25,000 for the purposes of a ten-day meet to be held early in May—perhaps from the 1st to the 10th—and that total donations probably will exceed $100,000.

The meet is to be colossal in comparison with the ten-day meet held at Dominguez field, near Los Angeles, in 1910. It is to demonstrate in impressive fashion the fact that aviation is no longer a dangerous experiment, but a safe, sane, superior method of transportation.

It is hoped that the meet will be the first great move to make of the Los Angeles district the aviation Detroit of America. This hope is strengthened by many statements at this week's meeting that atmospheric conditions in Southern California are the best for aviation purposes. It was told that the flyers of one Southern California field have traveled 60,000 miles without an accident; that flying is possible practically 365 days in the year; that all necessary men, capital, facilities and materials are available—while now 70 per cent of the timber of the state is taken East, and much of it shipped back, manufactured, as it can be and should be in the state itself.

The meeting was given recommendations by a committee appointed at the recent preliminary meeting. These included the meet in May; working for extension of aerial mail service, now operated between the Atlantic Coast and Omaha, to Los Angeles and San Francisco; daily mail service between the two Pacific Coast cities; co-operation with the Aero Club of America; standards of all kinds necessary to giving flying and landing the maximum of safety and practicability.

A feature of the meet in May is likely to be a capacity-carrying contest flight from the East. It was announced that two tentative entries, for six-passenger machines, against time, had been received the night before. It was proposed that the events include various non-stop contests, on or near fields; also for considerable distances, as to San Francisco; an altitude contest; flights to inaugurate such ideas as a triangular touring route—Los Angeles, Tucson, Phoenix.

The Goodyear company was well represented at the meeting by Messrs. Osterloh and others. The company has tendered the use of Ascot Park for the meet in May.

George Hackensmith, prominent on the company's engineering staff, explained the present safe condition of air traffic by dirigibles and planes and offered valuable suggestions. One was the great need of organized publicity, to educate the public and Congress. Carl McStay, of the Automobile Club of Southern California, compared Great Britain's appropriation of $300,000,000 for aviation purposes with this country's $13,000,000—not enough to even pay decent salaries to the men now in the Government's air service. Several others gave the meeting knowledge from their experience. Representatives of various nearby cities promised whole-hearted support.

Dr. Ford Carpenter, formerly weather forecaster in Los Angeles, now in charge of the aeronautical bureau of the Chamber of Commerce, emphasized the need of making the new organization's work primarily of research character, instead of commercial. He said nearby colleges have data and men better equipped for the purpose of studying aeronautical problems than can be found in any other part of the country.

Several speakers urged that, while the co-operation of men interested commercially is desirable, holding offices by them in the organization is not. This view may be altered by knowledge that Glenn Martin and others are highly valued as factors in the guidance and control of the Aero Club of America, the Atlantic Coast organization.

K. M. Turner, prominent Los Angeles broker, is president of the temporary organization. He is the inventor of the dictograph. George Harrison, former state highway commissioner, is temporary secretary. The present headquarters are in Mr. Turner's office, 614 I. W. Hellman Building, Los Angeles.

Join the Ship-by-Truck Movement. It is the transportation problem solver.

Camp Curry Economy Run Dates.

May 7 and 8 are announced by Foster Curry, of Camp Curry, Yosemite Park, as the dates for the fourth annual economy run from Los Angeles to the park. The dates fall on Friday and Saturday. Early in May the roads are generally at their best, the valley's beauty is at its maximum, and the camp is not pushed for accommodations. Also, Fresno hotels are better able then to care for visitors. Last year the dates were May 29 and 30.

Fresno is expected to be reached about 5 p. m. the first day, the time from Los Angeles being lessened about one hour by the paving of the Ridge Route, eliminating the hard Bouquet Canyon grind. As heretofore, the run will be under the sanction of the American Automobile Association.

Drive Against "Chauffeur" Thieves.

Automobile thieves operating in Southern California put fresh vim and vigor behind their efforts during the new year and the result was 168 cars, worth about $201,000, stolen in Los Angeles during January. The figures were compiled by the Automobile Club of Southern California.

The Club is back of a strong movement to do away with automobile thieves, posing as legitimate chauffeurs and "night men." As a part of the movement reputable chauffeurs are planning for their own protection a new chauffeur's organization, the old one being discontinued during the war.

Batchelder, Kennerdell to Speak.

A. G. Batchelder, chairman of the executive board of the American Automobile Association, and Richard Kennerdell, chairman of the A.A.A. contest board, will speak before the City Club in Los Angeles at noon, February 25. Mr. Batchelder will speak on "Coast to Coast by Road"; Mr. Kennerdell on "High Speed Values." The talks, by these men of ample experience, will be of great interest to automotive men.

Horseshoe Tires in Los Angeles.

Distributor of Racine Horseshoe tires in Los Angeles, Cal., has been taken by the Retzer-Russell Tire Co., composed of George W. Retzer, Jr., and T. B. Russell. The Pacific Rubber Co., former local dealer, now is distributor of Horseshoe tires in five Far Western states.

Heads Goodyear in San Francisco.

D. W. Sanford has been made San Francisco branch manager for the Goodyear Tire & Rubber Co., succeeding Frank Carroll, now district manager. He comes from Salt Lake City, where he was Goodyear branch manager.

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CALIFORNIA THIRD IN REGISTRATIONS

Unofficial Statistics by Wire Show Pacific Coast State Stepping Ahead of Pennsylvania and Illinois.

On December 26, only five days from the close of the year 1919, it appears from telegraphic information received from every state in the Union that unofficial registration statistics fully confirm all other evidence of the rapid development of the Pacific Coast; including such evidence as was recently sent home by a New York Times reporter who came to investigate various Coast situations not clear to people back there. He said plainly that Eastern industrial communities should take heed of the powerful competition growing up here in manufacture and commerce generally. He particularly noted this in automotive lines. His news would have been strengthened by a few statistics, such as that, in one Pacific Coast state alone, from 1911 to 1919 the population has increased 64 per cent; assessed valuations 52 per cent; state expenditures 94 per cent—exceeding receipts, which increased 89 per cent, of which 57 per cent came from property taxation, 17 per cent from public utilities, the remaining 26 per cent from various sources.

It is significant that, aside from special reasons for development, by which a certain heavy handicap has been partly overcome, Western states in which that handicap—federal withholding of vast areas—is heavy are low in the registration list.

One analysist says the increase on the Coast is not due to speedy commercial evolution. The opposite is true. Figures prove it. California has nearly one-third as many motor trucks as New York. Also, its proportion of motor trucks to population is much larger. A much larger proportion of passenger cars is commercially used in all Coast states than in the East; and this is amply backed by the fact that the actual number of passenger cars in California exceeds those in New York. California has 539 more automobile dealers than New York, ranking second only to Ohio, which is commonly understood to contain more fairly large cities than any other state, though this is not a fact, Massachusetts having more.

Nationally, automobile registration in 1919 did not gain as it did in 1918—an increase of 970,455, compared with 1,004,162. Blame after-war facts for this. Accepting figures recently gathered by the Boston News Bureau, there were approximately 7,602,000 motor vehicles in the country at the end of 1919—one for every 14 of the estimated population of 105,253,400 of a year ago, and compared with 6,225,192 motor vehicles at the end of 1918. Estimates put 1920 production of passenger cars at 1,700,000; motor trucks, 300,000; passenger car registration, over 2,500,000; total motor truck registration, between 700,000 and 800,000.

The greatest increase percentage exists in states where road-building has progressed in greatest ratio to total highway mileage of all kinds. Missouri's registration is five times as large as it was five years ago. In the same period Georgia's registration swelled from 9,000 to 130,000. Given similar opportunities by freedom from federal withholding of millions of acres, a number of states in this region probably would show similar increases.

The 1919 automobile registration figures, practically complete for the year 1919, show that California moved into third place, stepping ahead of Pennsylvania and Illinois. The statistics, gathered by wire by the Automobile Club of Southern California, are, as stated, unofficial, but the figures serve well for comparison:

State.	Total.
New York	558,453
Ohio	540,500
California	530,000
Pennsylvania	513,700
Illinois	478,318
Iowa	362,353
Texas	326,444
Michigan	325,052
Missouri	288,181
Indiana	277,252
Minnesota	258,719
Wisconsin	245,602
Kansas	228,000
Massachusetts	222,500
Nebraska	200,000
New Jersey	189,167
Washington	164,674
Oklahoma	150,800
Georgia	126,750
North Carolina	107,672
South Dakota	104,576
Colorado	103,615
Connecticut	101,900
Virginia	94,100
Kentucky	89,906
Maryland	89,000
Oregon	86,899
Tennessee	83,500
North Dakota	82,886
South Carolina	70,956
Florida	67,000
Montana	61,297
Alabama	59,991
Maine	53,420
West Virginia	50,185
Louisiana	50,000
Arkansas	49,445
Mississippi	48,000
Idaho	41,770
Rhode Island	39,000
Utah	35,130
New Hampshire	30,000
Arizona	28,712
Vermont	26,800
Wyoming	21,370
New Mexico	18,333
Delaware	16,150
Nevada	9,305

NO-PARKING LAW STARTS PETITIONS

Los Angeles Ordinance Takes Effect April 10 If Council not Convinced It Should Repeal It.

Even before Christmas there was strong opposition to the Los Angeles city council's plan to adopt a no-parking ordinance, to relieve downtown congestion and help put in effect a street car rerouting. After many days, during which the storm wave swung this way and that by means of hearings and columns of type, an ordinance has been passed, and a referendum petition against it started. The petition requires 10,000 names. The idea is to get so many signatures that the ordinance, which will be effective April 10, will be repealed. By April 10 most of the taxi stand permits expire.

The petition bears particularly upon the point that the ordinance will discommode hotels, which require a late-afternoon delivery of linen; that restaurants need similar delivery of supplies; and so on.

The ordinance prohibits parking in the business district between 11 a. m. and 6:15 p. m. except on Sundays and holidays; prohibits delivery of merchandise in the district between 4 p. m. and 6:15 p. m., but between 11 a. m. and 4 p. m. trucks may stop 15 minutes to make deliveries, and at any time during the restricted period passenger cars may stop two minutes to take on or discharge passengers.

The ordinance outlines the congested district as follows: Main, Spring, Broadway and Hill streets, all running parallel, from First to Ninth; Olive, running parallel to Hill, from Fifth to Eighth, to the heart of the automobile section of that street, east side of Hope, parallel with Olive, from Sixth to Eighth; First and Second streets from Los Angeles to Olive; Sixth, Seventh and Eighth from Los Angeles to Figueroa; north side of Ninth, from Main to Olive.

"Charlie" Branaman With Buick.

Charles A. Branaman, well known in Pacific Coast automotive circles as former automobile editor of the Los Angeles Examiner, has become publicity and advertising manager for the Howard Automobile Co., of Los Angeles and San Francisco, distributor of the Buick car in California.

California Second Per Capita.

Registration statistics for 1919 indicates that Iowa leads with one automobile for every 6.12 persons, with California second, one to each 6.54 persons, compared with one to 11 in 1918.

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MEETING DEMAND, LOS ANGELES' JOB

Something Stirring Every Day in the Prosperous Life of Southern City's Automotive Business Men.

With the annual dealers' show relegated to an indefinite spring-season date, probably in April or May, the Los Angeles trade is free to concentrate its attention upon meeting the high demand, become a normal one by reason of the even keel it has maintained during the last six months.

The activities centering around the great San Francisco automobile show are reflected in Los Angeles by the increasing number of men high in the automotive industry who are arriving in Southern California to visit the San Francisco event.

Rivaling San Francisco for a day, however, Los Angeles will be a magnet for Easterners and the Coast automotive trade because of the opening event on the new Los Angeles Speedway, Feb. 21.

Among those who will probably be present at the Beverly Hills track are Richard Kennerdell, head of the A.A.A. contest board; Charles P. Root, another member of the board; Alfred Reeves, president of the National Automobile Chamber of Commerce; C. G. Sinsabaugh, Eastern racing authority; O. C. Hutchinson, sales manager of the Hupp Motor Car Co.; President Mitchell, of the Chalmers Motor Car Co.; and T. W. Toner, Chalmers national sales director.

Generally speaking, Los Angeles dealers are much more comfortably situated as regards ability to make early deliveries than they were last summer. Orders can be promptly filled on Nelson, Briscoe, Standard Eight, Holmes and American cars, Auburn, in limited numbers, Cole, on a few open models, Columbia Six, on sport models, and on all models of Moreland and Diamond T trucks.

Among new models seen in the Southland are the King Eight Foursome, Scripps-Booth closed types, Kissel four-passenger coupe, Standard Eight, and Dorris, Tower and Samson trucks.

In the way of new agencies are found those for the Gardner Six and the Tower truck, seen for the first time on the Coast.

The McGill Motor Co. has taken the Gardner Six for Southern California and Arizona; handsome sales quarters are now being built for them on S. Figueroa St. north of Pico. The Tower truck will be represented by a factory branch, headed by C. H. Warren, located on S. Flower St., near Pico.

Harris M. Hanshue, Apperson dealer, will be located in his new building at Eleventh and Flower Sts. by Feb. 15. Coincident with news that Edgar Apperson is bound for the Coast to join his brother, Elmer, Hanshue has been notified of four carloads of new Appersons on the way.

To be shortly located also at Eleventh and Flower Sts., in a new three-story building, the W. P. Herbert Co. during January placed more Chandler cars with dealers and owners than in any other single month since the Chandler entered the Southern California field six years ago.

The Security Motor Co., Mitchell dealer, will shortly move to Eleventh and Hope Sts., the present location of the Albertson Motor Co., for whom a large concrete building will soon be ready at Sixteenth and Figueroa Sts.

The McKelvey Motor Sales Co., Liberty dealer, has new quarters rising at Tenth and Flower Sts., to be completed about Feb. 15.

The Gates-Kelley Automotive Co. announces that out of the first shipment of Patterson cars received all but one were sold at retail the first week. Additional shipments are on the way and the factory expects to be able to save its distribution from delay in placing cars in the hands of buyers.

Within the first week or ten days of its career as American Six agent the Carpenter Motor Co. sold 150 cars, retail and through its dealers in Southern California and Arizona and hopes to be caught up with all back orders in a short time.

Comparatively new also on the Coast, Davis Six cars have been received by A. E. Negus in a recent shipment and more art expected shortly.

The Pacific Motors Corp., King agent, has recently received what is said to be the largest consignment of 1920 cars for any Coast firm.

A carload of enclosed Standard Eight cars was recently unshipped for the Standard Steel Automotive Corp., only to be immediately disposed of to fill back orders.

Visiting the factory, W. D. Wright has been able to secure a shipment of new Roamer sport models, equipped with Duesenberg engines, instead of the usual Continental power plant.

Notwithstanding the freight car shortage, Davidson, House & Meyer, Cole Aero Eight distributors, expect the volume of shipments to increase greatly, relying on promises of larger shipments from the factory.

Walter C. Brown, Stutz dealer, reports he is no longer cramped for deliveries; at one time he could promise cars no sooner than in six months, but conditions are now materially relieved.

A shipment of the first new Cadillac models since 1917 is due to arrive in a few days, reports Don Lee, dealer for California.

Orders placed in Los Angeles for the Winton Six are being filled despite the shortage of new cars, states H. L. Owesney, factory branch manager, due to strong persuasion exerted on a recent visit to the factory.

The Samson farm truck is a newcomer in the local field. It represents an addition to the lines of the Samson Tractor Co., of Stockton, Cal., and appears in ¾ and 1¼-ton models at the company's new factory branch on N. Los Angeles St.

The Diamond T truck will be strongly pushed in Southern California and Arizona by a new firm, the Diamond T Pacific Truck Co., composed of H. H. Ham, H. T. Sheriff, F. F. Balzer and Hale Ayers. The firm will maintain branches in Bakersfield, San Luis Obispo, San Diego, El Centro and Calexico.

"Comes Back," Feels Lure of Coast.

A clipping from the Omaha Bee of January 26, 1913, contains an article with a top o' column heading, and pictures of a man who, having made a fortune selling automobiles, was retiring and selling out to two younger men—who by this time may also have made their pile. The Rocky Mountain News of July 1, 1917, contains an article praising the sedan as very suitable for touring, though as yet little used in that way. The name of the dealer looks familiar. It proves to be the same man who had retired in Omaha. Here the trail disappears for a while. Now, however, comes an advertisement, which appears in this issue of "Motor West," and which may have not only direct interest to those to whom it is addressed but to those who, associated with the automobile business a number of years, have noticed the tendency to "come back" into the the industry as it grows, and grows and grows. In this case not only is this lure present, but that of the Pacific Coast particularly so.

Mitchell Gets Whole Coast.

T. A. Mitchell, of the Mitchell Mfg Co., San Francisco, returning from visiting Eastern factories his company represents, states all have extended his territory so that he now has the entire Pacific Coast and as far East as Denver. As this shows appreciation of his work he feels elated. Among new accounts are a line of mirrors manufactured by Wildenburg Bros., New York City—a high class article, well known to the Eastern automobile trade; also the line of automobile accessories manufactured by the Ero Mfg. Co., Chicago.

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Automotive Lights Will Dine.

More automotive men of the East than ever before are making more or less lengthy stays in Southern California. Many have reached Los Angeles since the Chicago show. They will gather together for a square meal, and all the talk that goes with such a gathering, soon. The affair is being arranged by LeRoy Pelletier, C. Henry Ewald and F. Ed. Spooner. Some of the best-known men in the industry will be present—such as Harvey S. Firestone, Hugh Chalmers, Ralph De Palma, F. E. Moscovics, John C. Wetmore, Charles P. Root, Bert Dingley, George Jessup, James B. Sutphen, and others.

George W. Twitmeyer Dies.

George W. Twitmeyer, sales and advertising manager of the Stevens-Duryea Co., Chicopee Falls, Mass., died Tuesday afternoon, February 10, of pneumonia and spinal meningitis at a Los Angeles hospital. Mr. Twitmeyer was for many years advertising manager of the Peerless Motor Car Co., Cleveland. He was at the Chicago show, and en route to California, afterward, was taken ill. Rushed to a hospital immediately upon his arrival in Los Angeles he seemed to improve, but, due to the strain of the show, he lost strength after a week's battle.

Horse Races Close Ascot's Career.

From horse racing to horse racing will be the summing up of the eventful history of Ascot Park Speedway, Los Angeles. In modern days the old track has been famous to the world chiefly as the one all-season automobile race track in the country. A Stampede, made up of bucking, roping and steer-riding contests, promoted by George R. Bentel, will be held March 21-28; three days afterward the dismantling of the old track will begin, to make way for home sites for the great army of workers to man the new Goodyear plant nearby.

Sterling Tires in San Francisco.

George Maundrell and Otto Wallfisch, well-known merchants in San Francisco, have taken the agency for Sterling tires and tubes. The Charles A. Warren Co. are California and Nevada distributors. Sterling tires are used on the truck fleets of such great concerns as the American Express Co., General Cigar Co. and American Tobacco Co. Recent contracts from the United States government called for 18,000 Sterling tires.

Rises High With H. O. Harrison.

Holding one of the most responsible posts in the motor car dealer field in San Francisco, B. M. ("Bill") Taylor is now assistant general manager of the H. O. Harrison Co., supervising the Hudson and Essex division of the firm. Eight years ago Taylor secured a temporary position in the firm's stock department at $15 a week; two years ago he was wholesale manager.

Taussig's S. F. Show Lecture.

The lectures to be delivered by E. B. Taussig, carburetor expert of the Lathan Auto Supply Co., San Francisco, Pacific Coast distributors of Zenith carburetors, will be a feature of the San Francisco show. His subject will be carburetion. As part of the company's exhibit will be the same model of Zenith carburetor as was used on the famous seaplane, NC. 4, the first

E. B. TAUSSIG,
In Charge of Zenith Carburetor Exhibit at San Francisco Show.

to cross the Atlantic; the model used by Ralph De Palma in his fastest world's mile, and the model used in the French Whippet tank. The models and the lecture will be of great value to automobile owners. The exhibit will also include a full line of Zeniths for automobiles, motor trucks, tractors, airplanes and motor boats, and all of the special carburetor outfits developed by the company for Maxwells, Velies, Hudsons, Overlands, Dodges, Fords, etc.

Road Houses Go, Fruit Stands Come.

A newly incorporated San Francisco company expects to replace the pre-prohibition road houses of the Bay district with all night stands, and to extend its activities all over California. The plan is to construct steel buildings along the highways—outside the rights of way, of course—where fruits plucked from nearby groves are to be sold.

NEW TIRE PLANT FOR LOS ANGELES

Inflation-Compressed Inner Tubes to Be Made in Million-Dollar Replica of Factory in Oklahoma.

An initial expenditure of $1,000,000, as soon as a suitable site is selected in Los Angeles, is announced as the intention of the United States Compression Inner Tube Co., said to be a $5,000,000 corporation, of Tulsa, Oklahoma. The headquarters are to remain there, and Los Angeles is stated to have been selected for the principal branch factory for economical production and other reasons. This branch is to be practically a replica of the Tulsa plant, which is said to have an annual capacity of 150,000 casings and 300,000 inner tubes.

Offices have been opened in the Citizens' National Bank Building by C. R. Privett, distributor for Washington, Oregon, Idaho, Utah, California, Arizona and New Mexico.

M. C. Hale is president of the company, and the announcement was made after his arrival in Los Angeles from Tulsa to visit the Chamber of Commerce.

It is stated that, although casings will be made in the new plant, the chief product will be an inner tube with deep corrugations enabling it to be inserted easily in the casing when deflated. After inflation the corrugations straighten out, conforming to the smooth surface of the casing. Air pressure, instead of stretching the tube, compresses its particles tightly together.

More than $100,000 has been spent on experiments and models to bring the product to its present efficiency. It is patented in this country, Great Britain, France, Italy, Denmark, Spain, Canada and Mexico, and patents are pending in Cuba, Belgium, Holland, Switzerland and Sweden.

McCann in New Coast Quarters.

In 1913 the Pacific Coast branch office of H. K. McCann Co., nationally prominent advertising agency, was opened in San Francisco with one representative, one stenographer and one room. On Jan. 1, 1920, the Coast organiation moved into its new building at Montgomery and Sacramento Sts., with a force of 60 people, the largest advertising agency west of St. Louis.

Gill Rings in Portland.

The Gill Mfg. Co., of Chicago, has opened an office in Portland, Oregon, according to a recent announcement. John D. Lynch will act as manager of the new branch, the Gill Piston Ring Co., located at 409 Burnside St., West, in the Oregon metropolis.

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TRUCKS LOOM IN SEATTLE'S TRADE

Three New Commercial Car Agencies to Be Factors in Development of Great Northwest Center.

Three new motor truck agencies have appeared recently in the automobile field of Seattle, Wash. They are for the Signal, the Republic and the Moreland truck.

The new Signal connections result from the letting go by the Frank Waterhouse & Co. of their Eastern truck lines. The T. W. Little Co., of the nearby city of Tacoma, have taken on the Western Washington agency and plans to shortly open Seattle sales quarters.

The Republic truck will be handled in Western Washington by S. E. Bird, who has opened in a new building on Broadway between Pike and Pine Sts.

The Moreland Motor Truck Co., of Los Angeles, has arranged with the Commercial Motors Co. to establish branch agencies in Portland and Spokane. Moreland dealers are now to be found in all sections of Washington and across the line at Vancouver and Victoria, British Columbia.

Car and truck models new to the local field are the Studebaker series 20 and the Marmon 34 cars and the Huffman, Transport, Republic and Samson farm trucks.

The second 1920 trainload of Buick cars direct from Flint, Mich., reached Spokane recently and was broken up there to supply Eldridge - Buick branches at Seattle, Spokane, Walla Walla, Lewiston and other Pacific Northwestern cities.

The Sands Motor Car Co., new Studebaker dealer, recently unshipped three carloads of series 20 models and is expectant of three more in the next ten days.

Oldsmobile shipments are being delayed by railroad conditions. The railroads are scored by J. Walter Hainsworth as being farther behind schedule than even the production of automobiles.

Yakima, Washington, is the center of a wealthy agricultural and orchard district where there is already one car to every 6 persons. The Shields-Livengood Co., of Seattle, reports that its sub-dealer there is enjoying fine business on Liberty, Lexington and National cars and Traffic trucks.

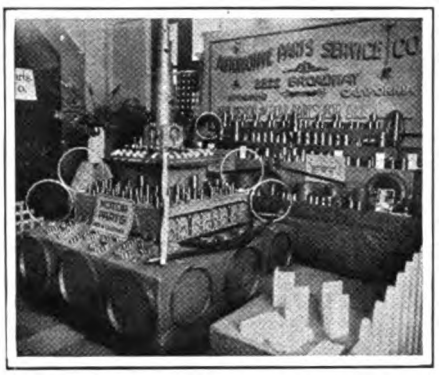
A carload of new Marmon 34 cars was received by Frank Waterhouse & Co. in time to place on display early in February.

The high lights of prosperity during the past three weeks seem to have occured chiefly with the truck dealers. The heavy demand for cars that harassed the car dealers is being met by them with increased shipments from the factories and good business has become a normal condition.

C. S. Mantell, of the Mantell-Denby Co., looks for the biggest year yet in the Washington, Oregon, Montana, Utah, Idaho and British Columbia territory through his company's five distributors. A large share of the 5,000 Denby trucks to be turned out during 1920 will be sold in the Pacific Northwest. Between Dec. 15, 1919, and Jan. 25, 1920, 23 Denby trucks were sold in the Western Washington territory.

To Seattle from Vancouver, B. C., came word recently that the Traffic truck dealer there has orders for 175 Traffics on his books.

The Reo distributor recently received a shipment of 12 Speedwagon trucks; in a week 11 of these had been sold and the twelfth was waiting for a prospect to get time to look it over.



CARRIES ALL KINDS OF REPAIR PARTS.

The above photograph of the display of the Automotive Parts Service Co.—at the recent Oakland Show—gives an idea of the diversity of new repair parts carried in stock by this enterprising firm. Needless to say, this display was the center of attraction of the repair and garage men, as many of the parts displayed are not to be obtained elsewhere.

The company is distributor of the famous Jahns Quality Pistons, and carries a full stock for all commonly used cars. An attractive piston and wrist-pin price list, showing sizes of pistons and wrist pins for all cars, together with much other useful information, will soon be issued—and may be had by addressing the Automotive Parts Service Co., at 3322 Broadway, Oakland, California.

Spokane Making New Records.

The fiscal automobile year, in Spokane, Wash., ending Feb. 29, promises to be a record breaker in the number of licenses issued and in the amount of license fees collected.

A total of 16,453 licenses have been issued since the opening of the present year on March 1, 1919, as against 13,811 for the previous year and 12,244 during the year of 1917. License fees totaled $240,934 during the eleven months of the fiscal year. Fees in 1918 were $94,500 and in 1917, but $66,990.

Fees from automobile licenses are all made a part of the motor vehicle fund of Washington. One million dollars of this fund is set apart annually for maintenance of permanent highways throughout the state.

Progressive Show Successful.

Automobile dealers of Spokane, Wash., are unanimous in their opinion that automobile shows such as the exposition which closed Jan. 24 in their city, are of tremendous value to the industry as a whole. The progressive plan, which is new to the west, has met with favor among dealers and will, without question, be adopted as the plan for 1921.

Marx Trailer Moves to L. A.

The Marx Trailer Co. has moved its factory from San Diego to Los Angeles, and will hereafter manufacture the Komfy Kamping Trailer at its new location at 1145 Quincy Street.

The move was necessary in order to secure better manufacturing facilities, as last year the company was unable to manufacture enough trailers to supply the demand.

Production is to begin at once and the new plant will provide adequate facilities to take care of the wholesale trade.

Mr. O. A. Banker, for ten years sales manager with the International Correspondence Schools, at Scranton, Pa., has accepted the position as sales manager. The trailer will be distributed through dealers except in Los Angeles city.

The Komfy Kamping Trailer is a patented trailer, which gives full housekeeping accommodations for four people. It weighs but 550 pounds, and is equipped almost to a degree of luxury, including electric lights and shower bath, and sells at a moderate price.

President S. S. Marx says that judging from inquiries and advance orders there will be more camping during the coming season by automobilists than ever before, and that the Komfy Kamping Trailer provides more comfort and more equipment, with less weight, than any camping outfit made.

Greer, Vice-President N. A. D. A.

At the convention of the National Automobile Dealers' Association in Chicago, President Vesper was succeeded as president by H. B. Harper of Philadelphia. P. H. Greer, of the Greer-Robbins Co., San Francisco and Los Angeles, was elected first vice-president.

Allen Pushes Essex Tubes.

Marc Allen is adding to his well-earned Pacific Coast laurels by putting over the top the widely known Master red inner tube, manufactured by the Essex Rubber Co., of Trenton, N. J. Marc is now making the northern country.

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WASHINGTON USES WHITE AND GREEN

Reign of Black and Yellow, Used for Two Years, to End March 1 and Temporary Cards Obviated.

Green and white license tags will be the colors used to distinguish cars registered in Washington this year. The black and yellow plate, now in use, was selected to be used for two or more years, and this period will officially end March 1, after which date, according to a recent announcement by the secretary of state, the state bureaus will accept new applications.

Washington's 1920 license tag will be of an attractive enamel, composed of a dark green background and white numerals and letters. The last legislature abolished the system of continuous numbers and distinctive plates will hereafter be issued annually.

The state motor vehicle department will accept applications before March 1, so that plates may be delivered before date, avoiding the annoyance of having to issue temporary card number plates.

About 140,000 pairs of the new green-and-white plates were recently stored in the capitol at Olympia and delivery to applicants will be made with the least possible delay.

Motor vehicles in Washington are taxed according to weight in pounds. The fee is $10 for the first 1,500 pounds and 60 cents each excess 100 pounds. Fractions of 100 pounds are not considered. Added to the above is the county auditor's fee of 25 cents.

"For-hire" motor vehicles pay $20 for the first 1,500 pounds and 60 cents for each 100 excess pounds. In addition, there is a fee of $3 per passenger capacity, exclusive of driver, and the usual 25 cents auditor's fee.

Automobile stages pay $25 for the first 1,500 pounds and 60 cents for each 100 pounds over that. They also pay the $3 per passenger capacity fee and the auditor's fee.

On motor trucks weighing less than 1,600 pounds the fee is $10, regardless of carrying capacity. Over 1,600 pounds, trucks pay $10, plus 40 cents per each additional 100 pounds, up to and including 6,500 pounds, and in addition, 40 cents per hundred weight at the truck's rated capacity.

Weighing 6,600 pounds and more, a truck is taxed $10 for the first 1,500 pounds, and 50 cents per hundredweight for all in excess of 1,500 pounds, and, in addition, 50 cents per hundredweight at the rated capacity. Fractions of 100 pounds of the truck's weight are counted in figuring the rated load-carrying capacity.

Open New Coast Branches.

The Double Seal Ring Co., manufacturers of the Double Seal Piston Ring, with home offices at Fort Worth, Tex., and thirty factory branches operating in the United States at the beginning of the present year, have been forced by the increased demand for their product on the Coast to open two new factory branches.

One is at Stockton, Cal., where they have a fine location at 106 North California St.; and the other at Portland, Ore., where they are using a temporary location until a better one can be secured.

The main distributing point for the Coast is located at 1124 Polk St., San Francisco, where they carry the largest stock of Piston Rings carried by any jobber or manufacturer on the entire Pacific Coast. This stock includes over-sizes as well as standard sizes for every known make of automobile, aeroplane, tractor or truck motor and even includes the sizes necessary for the smallest air compressors, ammonia compressors and the like.

Mr. W. R. Echard, manager of the San Francisco branch, told our representative that they have more than doubled their Coast business in the past year and expect to double again in 1920.

Great Building for Don Lee.

The recent announcement of a new building in San Francisco for Don Lee, distributor of the Cadillac car in California, is probably the most important one effecting the trade in the Golden Gate city so far this year.

Covering half a city block and reaching six or eight stories from the ground, the new structure will give 200,000 square feet of floor space to every phase of a general automobile business, varying from night storage to the making of special tops and bodies.

The site is the half block of land between Van Ness Ave., O'Farrell St. and Polk St. Lee's choice of location is considered another sign of the trend of San Francisco's motor merchandising district southward on Van Ness beyond Geary St.

Van Ness and Geary, Don Lee finds, is the city's motor traffic center and checks on traffic shows that about 9,000 cars pass there daily.

J. & B. Man on Coast.

F. A. Knight, factory representative of the J. & B. Mfg. Co., Pittsfield, Mass., who has been on the Coast for the past month, looking after his company's affairs in this section, left for the East on the 4th. He is making a circuit of the entire country, having left the factory in October last. Mr. Knight will travel to Florida by the Southern route, after which he will proceed north along the Atlantic Coast to Pittsfield. During his six-months' trip he will have covered every principal city in the country.

Harrison's Plans Stir Row.

The H. O. Harrison Co. has roused the curiosity of San Francisco's automobile circles by buying a large piece of land at O'Farrell and Polk streets and planning a 5-story concrete building for the sale and distribution of automobiles. The question is, what make? Apparently the present Van Ness quarters are to be retained. The move there, 10 years ago, was away from the then automobile row on Golden Gate Ave. The new move is away from the present row. It may mean a new motor car rialto, is the gossip. Harrison is also erecting a large building in Oakland, across the bay.

Adam-Hill, Widely Representative.

The Adam-Hill Co., 96 Ninth St., San Francisco, has been made Pacific Coast representative of the Weidely Motors Co., Indianapolis, maker of Weidely "Bulldog" motors for automotive power. Both Messrs. P. M. Adam and F. Leroy Hill are well qualified by technical education and experience. Mr. Adam points with pride to George Watson college, Edinburgh, Scotland, and Mr. Hill graduated in mechinical engineering in the University of California and during the war was doing production work on Liberty motors.

Leach Car Scores in East.

Having the honor of being the first Pacific Coast motor car manufacturer to participate in a national automobile show, was not the only reason for jubilation by Martin M. Leach, of the Leach-Biltwell Co., of Los Angeles, over the success meeting the Leach Power Plus Six exhibit at the recent Chicago show.

The other reason, or reasons, were the more than $2,250,000 worth of contracts for Leach cars brought home by C. N. Graves, the firm's Eastern representative.

Geronimo and Texan Expand on Coast.

The Geronimo Six and the Texan Four, which first appeared upon the Pacific Coast in Seattle, have invaded the California territory. C. A. Palmer, head of the Motors Distributing Co., of Seattle, and E. W. Niehoff, formerly of the W. L. Eaton Co., same city, have formed the Palmer-Niehoff Motor Car Co. of California, with San Francisco headquarters.

C. A. Palmer is Geronimo and Texan distributor in Washington, Oregon and Idaho.

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TRADE NEWS OF THE BAY CITY

All Signs Are That Automobile Row Liveliness and Business Will Be Feature of Show Week.

The Geronimo Six and the Texan Four are two new cars in the San Francisco territory. Taken some time ago for the Pacific Northwest by C. A. Palmer, of Seattle, both lines have been introduced to the California territory by a new firm, the Palmer-Niehoff Motor Co., of San Francisco, composed of C. A. Palmer and W. G. Niehoff, the latter formerly connected with W. L. Eaton Co., of Seattle.

Among the comparatively new dealers, the White-Humphries Motor Co., handling Standard Eight and Commonwealth cars, are faring well; shipments are coming through regularly, they announce, and will soon place them in position to make immediate deliveries. Cars are certain to be scarce before the end of the year, however, due to the tremendous demand.

The Roamer Motor Car Co. expects to occupy its handsome new quarters at Van Ness Ave. and Clay St. about March 1. They will have 14,000 square feet of floor space in their two-story building. The year 1919 was one of success for the Roamer car in Northern California and the present allotment is three times as large as that for last year.

Concerning Lexington cars, thanks to extensive additions to the Connersville, Ind., factory, the Pacific Coast will soon be getting enough cars to supply back orders and enable dealers to accumulate stocks sufficient for immediate deliveries, according to the Charles H. Kaar Co.

There will be a shortage for some time on both Apperson and Biddle cars, states J. H. Morris, representative for the Hartmann Motor Co., a recent visitor in the East, but he returns more than enthusiastic over the outlook.

The future also furnishes cause for enthusiasm to Bert Latham, of Latham & Davis, dealers for the Stutz. Larger production is assured when the new Stutz factory is opened about April 1 as the largest motor car plant in Indianapolis.

Not all dealers are enthusing. Some are still suffering from railroad freight conditions, others have the earlier-than-usual Eastern demand to blame for slim shipments to the Coast or none at all.

Perry H. Greer, of Hupmobile and Chalmers fame, finds ample room for pessimism over the lack of cars caused by shortage of freight cars. Greer recently traveled the East, taking in the national shows. Five hundred freight cars a day have been needed recently to transport automobiles and trucks out of Detroit, he says, but as low as 43 cars daily was all that was sometimes allotted.

To Fred J. Linz, handling National and Liberty, the outlook is not very bright for a large supply of high-grade cars for some time to come.

Don Lee, Cadillac distributor for California, is to erect one of the most imposing monuments to the automobile industry in San Francisco at Van Ness and O'Farrell St., a site somewhat removed from the center of the local automobile row. It will have six to eight stories and some 200,000 square feet of floor space. At the same time shipments of the first new Cadillac model appearing since 1917 are on their way to the Coast, he announced recently.

The San Francisco air is being electrified by the activities preceding the staging of the Fourth Annual Pacific Automobile Show, to be held in the Civic Auditorium, during the last week of February. In point of the number of men high in the automotive industry already on the Coast and heralded as coming the San Francisco event is certain to more than ever justify its status as the third national automobile show of the United States.

Motor truck dealers have not been left out of the current of prosperity. The Pioneer Motor Co., from Jan. 5 to Jan. 31, a period of 23 working days, sold 81 Republic trucks, valued at $211,975. According to M. E. McKinney, Western manager for the Denby Motor Truck Co., he has secured a very fair allotment for California, but knows that it will not be enough to take care of the demand.

Some figures on the size and scope of activity of the San Francisco assembling branch of the Ford Motor Co. have been made public recently, giving an idea of the great Detroit company's efforts to meet the Coast demand for its well known product.

It employs more than 500 men; has a monthly payroll of $80,000; and a gross monthly business of close to $3,000,000. The assembly plant, located in the Mission district, contains 231,000 square feet of floor space, is five stories in height and covers about 5¼ acres.

Fourteen freight cars daily take away assembled Ford cars and 12 freight cars bring in material every day. This does not include the average of 40 automobiles driven away daily by out-of-town dealers.

The plant's work is merely that of assembly. The operations carried on are body assembling, trimming, top assembling and painting. All chassis are put together and painted complete in this plant. Engines are assembled in Detroit and arrive on the Coast complate.

Elgin Tour, Seattle to Mexico.

C. P. Iles, distributor in Seattle, sold T. H. Vogl an Elgin Six, who immediately gave it a test of 2300 miles to the wet country south of the Mexican line. It averaged over 22½ miles per gallon and 400 miles per quart of oil. Severe detours were struck in Oregon, and hills long and steep—some of 30 per cent grade. The average mileage was 140 per day. At the end of the trip no adjustments had been made and no punctures received. Standing such a test in the East would make a nine day wonder of any car.

Story of Oldfield and Ford.

Barney Oldfield did his first racing in Ford's pioneer car. Ford recently said: "Barney made me and I made Barney." Barney replied: "Yes, and did you ever stop to think I did a lot better job than you did, Henry?" Still, the Oldfield Tire Co., which began a year ago, is claimed to have passed 80 per cent of its competitors in sales, with much less grief than Ford had in the years following 1902.

White-Humphries Co. New Home.

In a new home, built of concrete, at Van Ness and Pacific avenues, San Francisco, is housed the White-Humphries Motor Co., distributor of the Commonwealth car in Northern California and Nevada. R. O. Watson, reputed to have been one of the best automotive engineers in the East, is manager of service and is particularly pleased with the shop space, tools and fine car handling facilities.

Two New C. S. A. A. Branches.

At Modesto, one of the gateways to Yosemite Valley, a branch office of the California State Automobile Association will open April 1. On the same date a district office will be opened in Salinas, supplanting the tourist bureau there and covering the counties of Monterey, Santa Clara and San Benito. All coast highway traffic north and south, and into Monterey peninsula, passed through Salinas.

Doble Steam Car for Coast.

Abner Doble, engineer of the Doble-Detroit Steam Motor Co., has returned after a year in Europe with the English and French Doble companies, organied there to manufacture the Doble steam car. Mr. Doble is reported to be on his way to Oakland, Cal., where, it is said, the Standard Gas Engine Co. is to make the Doble car for the Pacific states.

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Chalmers' Hard 10,000 Mile Trip.

C. C. Stall, Chalmers agent in Clearwater, Cal., and his wife recently finished a 10,000 mile round trip to Ontario, Canada which they will not forget, owing to the great variety and severity of climate encountered. They took the northern route, via Oregon, stopped at the Chalmers factory in Detroit and reached Ontario November 11, starting back November 20. Returning, roads in Illinois and Iowa were so bad intermediate gear was needed down hill, and in Kansas and Nebraska alcohol was needed in the radiator. They then came home via El Paso and the National Old Trail, through Phoenix. Near there, the Agua Fria was so high the water almost reached the seats. All cars were pulled across by teams. The water did not prevent the hotspot engine from starting easily afterward, however.

A. E. A. to Meet in Monterey.

When the Automotive Equipment Association meets for the fifth time since its organization the coming-together place will be Del Monte, the wide-famed California sea resort on the shores of the Bay of Monterey. The meeting is scheduled to be held the first week of June, 1920, and will be the first gathering of the Association west of the Rockies.

The decision to meet again on the Pacific Coast was arrived at during the fourth annual meeting, held last November, at which time new officers and directors were represented.

On the Association's board of directors the Pacific Coast is well represented, Robert Weinstock, of Weinstock-Nichols Co., San Francisco, and Earl Reynolds, of Tacoma, being two of the ten directors.

New Motor Bus Activities.

The California railroad commission has authorized the Eldorado Stage Co., operating between Bakersfield and Los Angeles, to lease its equipment to the White Bus Line, Inc. It issued a permit to the Kings River Stage and Transportation Co. to operate a freight line between Fresno and Sanger. Sale of the Carl C. Allen stage line between Fresno and Kingsburg to the Fresno-Kingsburg Stage Co. The G. & W. Stage Co. was authorized to issue $5000 in stock to C. W. Willis for an operating franchise. The company recently took over the Golden State Tour Association line between Los Angeles and Gilman's Springs, Riverside Co.

Bay City Traffic Court Opens.

San Francisco's new traffic court is handling all cases involving automobiles—both misdemeanors and felonies. The announcement that flagrantly breaking traffic ordinances means jail has markedly reduced arrests. When violators are not arrested, their numbers and the facts are recorded and, in case of arrest later, probably after the second or third offense, the record is used as cumulative evidence. It is found many of the accidents are the fault of careless pedestrians, especially children, who are being taught road rules by the police, the board of education and the California State Automobile Association.

Spokane Segregating Garages.

Legislation which practically bars public garages from districts used more or less exclusively for residential purposes has been passed by the Spokane city council.

An ordinance was adopted requiring the written consent of the owners of at least two-thirds of the property in the block in which a proposed garage would be built.

This ordinance, the commissioners said, is a decided step towards the city zoning system, which, according to Mayor C. M. Fassett, will be introduced soon in definite form.

Accident Tale of Two Cities.

The California State Automobile Association compares accident statistics of San Francisco and Los Angeles thus: In the former, in 1919, five accidents per day from automobiles and street cars, a total of 1655, with 52 deaths—25 of these, children. In 18 of these cases automobile drivers were exonerated by juries, and in two cases children were run over by horse drawn trucks. In Los Angeles, in July, August, September and October, 39 accidents per day, a total of 4600; 30 pedestrians killed.

California Thefts in 1919.

During 1919, 3272 automobiles were reported stolen, is the record of the State Bureau of Criminal Identification and Investigation. Of these, 1770 thefts were reported by police departments and 1502 by the Pacific Coast Automobile Underwriters' Conference. The facts are expected to give impetus to the plea of the California Traffic Officers' Association, that lock controls be established on all roads into and from San Francisco.

Fresno County's Signboard Plan.

New road-name signs to be erected in Fresno County, Cal., by the California State Automobile Association, in addition to those already erected, will completely cover the country and enable one to locate any farm by the road address. This is believed to be the first systematic application of the idea, though in some parts of the country roads have been given names.

OREGONIAN SAYS THINGS OF ROADS

State Highway Commission Chairman Makes Comparison Worth Noting by the People Who Pay.

After wintering three months at Long Beach, Cal., S. Benson, chairman of Oregon's state highway commission, and wealthy Portlander who in the past seven years has donated more than $250,000 of his personal funds to highway projects, recently returned home. What he said, comparing the chief highway type of his state and California, clearly indicates his belief in bitulithic, rather than cement concrete. Stating that Oregon has more mileage under contract than any other state in the Union, he asserted it "is getting more for its money" and has the most consistent and comprehensive program of any state. He said California's cement roads "are more expensive than Oregon can afford to build," the word "afford" being given significance by his adding that California's maintenance cost amounts to $3,000,000 a year while that of Oregon "will be almost nothing for many years to come."

Chairman Benson's statement follow some he made while in Southern California, where he also commented that Oregon is more fortunate in its engineering, whereby sharp turns and, particularly, multiplicity of imposing but dangerous mountain hairpins, are obviated. His reference to paving types is based on experience in Oregon and observation in Washington and California. In the latter state certain stretches of bitulithic laid many years ago were found by the Imperial County highway commission, on a tour of investigation, to be practically as good as new.

Oregon expects to expend $75,000,000 to complete its highway system. Recently it was enabled to proceed ahead of the next apportionment of Federal aid, officially to be made July 1. Special attention is being given the Pacific Highway to the California line, with a view to enabling motorists to drive from Portland to San Diego "on the high" by next summer.

Montanans Go Slow.

There have been better automobile-buying years in Montana than the present one, according to recent reports. Repeated crop failures have set the farmers back considerably, and making the old car do for a little longer is a necessary detail in their retrenchment.

Not to pull together is to pull apart.

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SAN FRANCISCO'S EQUIPMENT SHOW

March 30 to April 4 Dates for What Is Believed Will Be the Greatest Exposition of Kind.

The reports that are constantly coming in regarding the Pacific Coast Automotive Equipment Exposition to be held in San Francisco, March 30-April 4, would indicate that this will be the greatest event of the kind ever held in the United States. The California Trade Association, the jobbers and local organizations are co-operating with the management to set a precedent in automotive equipment exhibits.

Heretofore accessory exhibits have been held in conjunction with automobile shows and were given only secondary consideration, the exhibitors being compelled to take space in side-rooms and corridors away from the main show.

This year the exhibitor will be enabled to show his goods amidst surroundings created for that purpose. On entering the auditorium one will see a vast panorama of brilliantly lighted cream and gold booths so arranged that a complete view of the whole floor may be seen at a glance.

The entire ceiling is to be hidden from view in a mass of delightful color in blended harmony. The murals will be new and original and the most beautiful ever seen on the Pacific Coast without exception. In addition to having abundant light at each booth the ceiling light effect will be most novel and artistic.

Work Begun on Fine Scenic Road.

While most of the country is winter-bound, work has begun on one of the finest scenic roads in Southern California, up Arroyo Seco from Pasadena to the top of Mt. Wilson. The state contributes $100,000, Los Angeles County $60,000, the Forest Service $21,000, Pasadena $22,000. It will be 20 feet wide. Near by the San Gabriel road, through marvelous scenery, will be extended. It also in a co-operative plan, $375,000 being in sight. The road now runs seven miles up San Gabriel canyon to Brown's Gulch and will continue to Camp Rincon and beyond.

Automobiling in Hawaii.

The beautiful Hawaiian number of the New West magazine, published in Denver, contains an article telling how, when the ship enters the slip, there is a sight "that can be seen only in Honolulu"—hundreds of automobiles lined at the curb, systematically arranged the traffic police. These are not antiquated cars, but new, high-powered machines, the like of which, it is claimed, cannot be found in the rent service in any other part of the world, and all driven by men who passed rigid tests before being licensed.

There's something else in Hawaii, too—kava, "semi-intoxicating" because it merely makes the legs wobble, not affecting the head. A girl chews kava root, which is then mixed with water in a bowl. It ferments while you wait. Its method of manufacture is said to be the chief obstacle to its more general use by visitors.

Road to Roosevelt Park Adopted.

The California Highway Commission has adopted the middle fork road from Three Rivers to Roosevelt National Park, the division engineer having reported it to be five miles shorter and to have four miles less grade than the present road up the north fork. Furthermore, the National Park Service is preparing to construct a road connecting with the middle fork terminus leading into the park, by a much shorter and easier route than the present one.

Plans S. F.-to-Portland Stages.

Automobile stages may soon be covering the entire distance between San Francisco, Cal., and Portland, Ore., if an application made to the state railroad commissions of California and Oregan by the Pickwick Stage Co. is granted. Permission to run motor stages from San Francisco to Cole, a town on the northern state line of California, has already been asked. Stages would be operated on regular schedule between May 1 and October 31.

The distance between San Francisco and Portland is some 770 miles, but recent large-scale road building operations in the Oregon mountains will make it easily travelable.

In Junipero Serra's Day, and Now.

The wraith of Fra Junipero Serra, greatest figure of California's mission days, may sit up and take notice occasionally of the speed with which the heath over which he tramped in sandals is being covered by the automobile sightseers of the year 1919. One company operating stages covers more than 3000 miles a day and carries more than 200 passengers over eight routes. This is the development of the past eight years. Practically every point of interest is touched. A touring trip begins every hour, on the hour, during the daytime. One trip, to Riverside, 163 miles both ways, is a one-day trip, extending to San Bernardino and Redlands on the return. The beach trip covers 44 miles. The San Diego round trip, 360 miles, is a two-day affair, extending below San Diego to Tia Juana at the Mexican border. The trips to Lancaster, on the high Mojave desert, and east to San Jacinto, rich in Ramona romance, are 170 and 224 miles, respectively, and two stages make these impressively scenic journeys daily.

Gasoline Fortress Costs High.

When an automobile is intended to serve as an armored fortress on wheels in addition to representing the highest refinements of design and all features of convenience capable of being fitted into a tonneau, the price of said vehicle will be high. The sum of $35,000 is what His Excellency Governor Chang Tso-Lin, of Mukden, Manchuria, is willing to pay.

Governor Tso-Lin's specifications are: A light machine gun for the footman's seat beside the driver; bullet-proof steel sides and roof; easily movable steel coverings for the windows; heavy running boards for carrying three armed guards on either side; powerful spotlights, besides ordinary headlights; and every convenience inside the tonneau.

Hubert Honigsberg, referred to in the Orient as the "automobile king" of China, where he controls the agencies for the principal American makes, will place the contract in the United States. He will buy, in addition, 25 armored automobiles for the Chinese government.

Ridge Route a Busy Highway.

Recent checking on the Ridge Route, the short way between Bakersfield and Los Angeles, via Tejon Pass, showed that a motor vehicle of some kind passed a given point every 2½ minutes. The heavy traffic continues through eight hours each day, and on the basis of the checking it is estimated the travel numbers nearly 30,000 persons per month. In addition to seeing some wonderful hills and hairpins, and very fine surfaces, all of these, at this time, on the "grapevine twist" and "gas house detour," learn what it is to be plunked from the good roads era back into that of half a century ago.

Two Kinds of Traps Busy.

Traps are increasing in the vicinity of San Francisco, for catching automobile thieves. So are traps for the unwary speeder. It is hoped to practically eliminate the former soon. In 1919, 1354 thefts and 1299 recoveries formed San Francisco's record. To speeders the California State Automobile Association gives friendly warnings; as to a wide range, including Sacramento County. Contra Costa police are especially active against speeders.

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Will Operate Chain of Garages.

A "chain" system of garages is to be built and operated in Los Angeles and other California cities by the Standard Garage Co. New York capital is reported back of the company, which will be capitalized at $1,500,000, and Frank L. Dickinson, a well known local architect. The "chain" system will be run under a central management. Each garage will handle one standard tire, one battery, one make of paint, etc. At Hollywood Blvd. and Western Ave. will be built the "parent" garage and service establishment; here employes will be trained according to a fixed policy. Some twenty-five or more garages, all of one distinctive type of architecture, will be erected by the Standard Garage Co.

Hewitt Coast Business Good.

The Hewitt Rubber Co. of California, factory branch of the Hewitt Rubber Co., Buffalo, reports a large 1920 business closed for the Coast. The product is automobile tires and rubber goods, especially such as railroads use. F. V. Springer, first vice president of the home company, visiting the Coast, spent two weeks with Branch Manager Charles W. Harris, in San Francisco. He assures all handlers of Hewitt tires who have contracts that the shortage of cotton has been forestalled by the company obtaining an ample supply. He states the Coast territory is all taken. Increased warehousing in San Francisco has been provided, from which branch Hawaii also is taken care of.

Coast Signal Device Doing Well.

Growing success attends a Pacific Coast signal device, called the Day-Nite Auto Signal, made and distributed by the Day-Nite Signal Co., 82 Eighth St., San Francisco. Twenty-four-hour, 100 per cent efficiency, and superiority in combining the advantages of mechanical and electric signals, without disadvantages, is claimed. It is a two-arm signal, tail lamp and number place bracket, cleverly compacted in one article. Control is mechanical from the steering wheel column. The tail lamp light illuminates the moving arms at night, while the electricity consumed is only that of the lamp. It is attractively finished in nickel and is installed without piercing the fender or defacing the car.

Garage Men Are Well Represented.

Garage and repair men of Portland, Ore., now have an interesting little pamphlet published monthly by the Portland Garage and Repairmen's Association. "Association News," of which Will J. Lester is editor, will act as a powerful method of bringing the local garage and repair trade to recognize the advantages of co-operation and that the interests of one are really the interests of all. It features the doings of the Association, hints on mechanical and electrical subjects and garage economics and works for fair city and state legislation as it affects the garage trade. Above all it breathes a strong spirit of good fellowship.

To Keep Snoqualmie Pass Clear.

Not this winter, but, it is hoped, next winter and thereafter, Sunset Highway and Snoqualmie Pass, in Washington, will be kept clear of snow by means of a $35,000, 40,000-pound tractor fitted with a motor for each side tractor and one for the rotary fan, which will amble along at 4 miles per hour, clearing snow four feet deep to a width of nine feet. The idea is that of D. L. Ellis, assistant engineer of the Great Northern Railway, who recently received blue-prints and estimates from the General Electric Co. and submitted them to the Seattle Motor Car Dealers' Association. Electric experts declare it ought to be practicable.

A Slave to Tahoe's Lure.

Among San Francisco dealers is what is known as the "Tahoe nut," this being Bob Galindo, sales manager of the Greer-Robbins Co., Hupmobile dealer. He professes himself obsessed with Lake Tahoe, that blue patch of water more than 200 miles out from San Francisco and on the other side of the Sierras. Saturday afternoon about every two weeks Galindo starts for Tahoe in his Hupmobile; Monday morning he is back at business in San Francisco.

His last jaunt will be his last for the season, it seems. The road was supposed to be closed; Galindo had to wait a half hour while the surprised train crews cut the train in two, so he could go through the snow-shed on top of the world. So-called "thank-you-marms" that stop the rain from washing out the road in winter were all in place and Galindo admits he had the ride of his life.

Ambitious Garage for Spokane.

A five-story fire-proof garage is to arise in Spokane, devoted exclusively to the storage of automobiles. It will be located on Main Ave. in the Inland Empire metropolis, will cost $150,000 to build and is expected to be the largest and best equipped of its kind, both for tourist and local travel, between Minneapolis and Southern California. Between 350 and 400 machines may be stored in it. R. C. Dahlhjelm heads the company which will operate it when ready sometime around May, 1920.

SPOKANE TO HAVE NEW TRUCK HOUSE

Commercial Motors Company Will Be Representative of Commerce and Moreland Lines.

Spokane is to have another motor truck company, a new garage and new sales organization, according to announcement by Stanley G. Morrison of Seattle, head of the Commercial Motors company. The company will handle Commerce and Moreland trucks in Spokane. Guy Sanders, sales manager of the Rochester Motors company, who resigned January 1, will be sales manager of the new company.

Incorporated for $12,000, the new firm of Ernst Brothers & Farnham is to operate at the Ernst garage at S126 Walnut Street, handling Diamond T trucks and Columbia six passenger cars.

After spending several months winding armatures in the basement at 1222 First avenue, three young men of Spokane have organized the Spokane Winding Works and have opened a modern winding shop at 1 Division street. Members of the company are R. B. Noble, W. H. Peterson and Ed. M. Raney.

Roadside Signs to Disappear.

Unsightly advertising signs will no longer desecrate the right of way of the main highways of Eastern Washington. Permission has been granted the Inland Automobile Association to remove all signs within 30 feet of the center of the road, and work of beautifying the roadways begins November 1.

"We have received permission from the county commissioners to remove unsightly tin, wooden and painted signs before November 1," says Frank Guilbert, secretary of the Association. The Association will be divided into cleanup groups, and before the first of the year all signs on the right of way will be moved.

In some cases where the signs are permanently placed on rocks and trees, chemicals may have to be used to restore the substance to its natural state.

Apco Opens Coast Branch.

The Apco Mfg. Co., Providence, R. I., have just opened a Coast branch at 451 O'Farrell Street, San Francisco. This branch will be in charge of C. G. Dippel, for a number of years with Chanslor & Lyon and later in the capacity of branch manager for the M. & M. Co., Cleveland, O. Mr. Dippel's long experience in the automotive equipment business should be instrumental in increasing the popularity of the Apco line on the Coast.

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Stage Set for Opening of Fourth Annual Pacific Show

There Will be 54 Lines of Passenger Cars and 55 Makes of Motor Trucks on Exhibition, With More Than 60 Exhibitors of Automotive Accessories—Big Influx of Industry Heads from Frozen East and of Dealers From All Over the Coast

STAGED in the midst of a scenic portrayal of the Western wonderlands, the fourth annual Pacific Automobile Show will unfold for Western motordom a blending of natural beauty and mechanical motor perfection at the Exposition Auditorium in San Francisco on February 21.

Unparalleled in every detail, this year's motor exposition—the first big post-war gathering of automobile dealers, distributors and enthusiasts on the Coast—gives promise of rolling up a record of public commendation which will echo in all the big cities of the East. Motor industrial boosters see in it another big triumph for the Pacific Coast motor industry—a triumph sufficient to bring natural recognition to the West as one of the great centers of the motor industry in America.

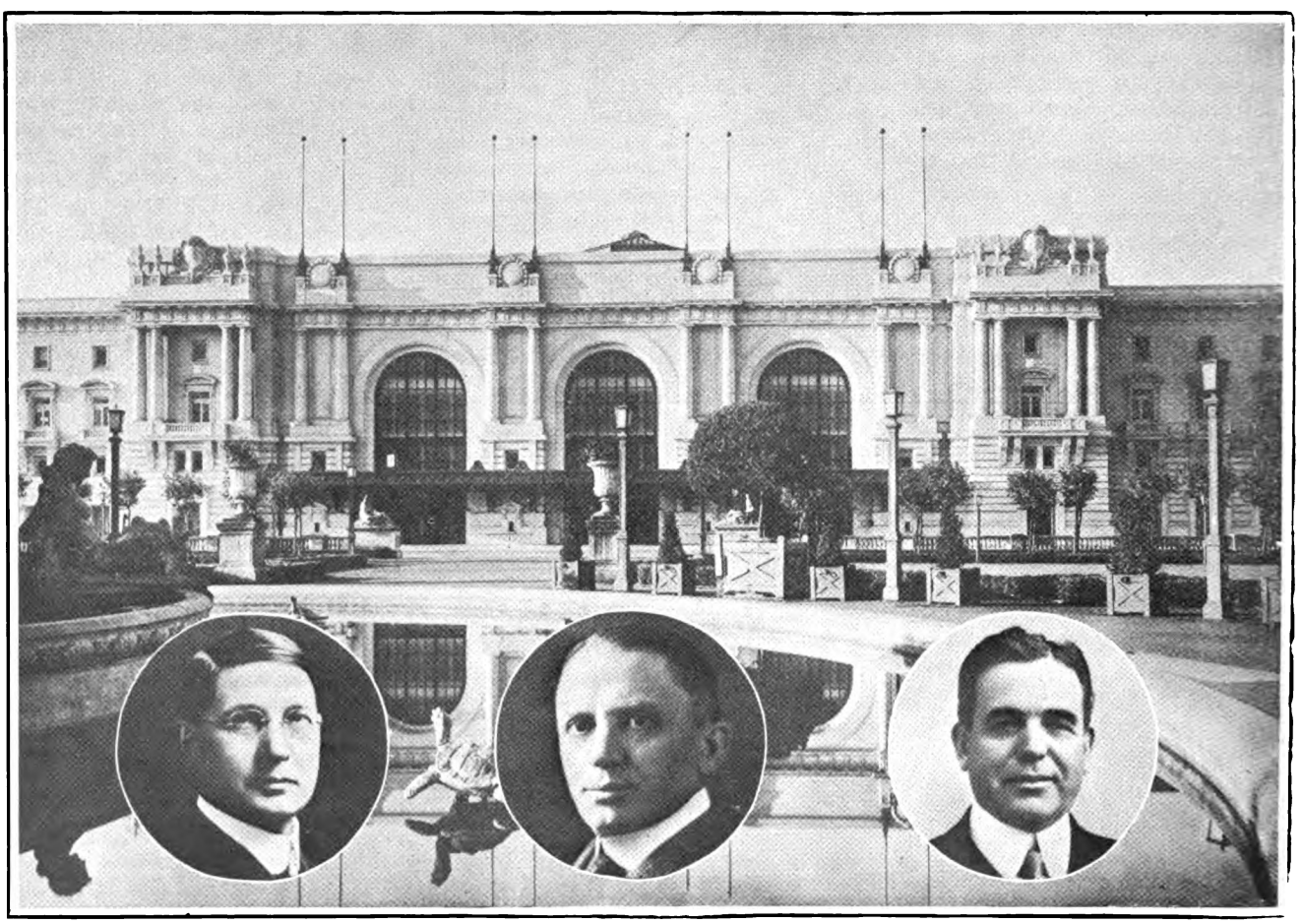
Behind the usual scheme of automobile shows of yesteryear, there lurks this year the opportunity for the thousands of visitors to visualize the automobile product of 1920 in a setting of out-of-door California—a setting which has been evolved by the genius of G. A. Wahlgreen, the show manager.

Determined to make the fourth annual effort of Western motor car dealers and distributors to show the public the latest design in all models of motor cars, trucks and tractors better and bigger than ever, Manager Wahlgreen conceived the idea of blending the scenic beauties of the West in the pictorial setting.

His plans—plans perfected after months of painstaking labor—will have their final realization when the huge Auditorium opens its doors on February 21. And then for eight days, until February 28, the visitors will have the benefit of his supreme effort in the production of shows of this kind.

Because of its magnitude and matchless beauty, this exposition of the automobile trade is destined to herald a new era of motor industrial development. The show will far exceed all similar events in the history of the Pacific Coast. Its displays will cover 108,0000 square feet. Its number of exhibitors will reach well into the hundreds. And its displays will include every product from America's automobile workshop.

The message that the show will carry to the world dur-



EXPOSITION AUDITORIUM IN SAN FRANCISCO, WHERE FOURTH ANUAL PACIFIC AUTOMOBILE SHOW WILL BE HELD. INSETS (LEFT TO RIGHT): CHESTER N. WEAVER, MEMBER EXECUTIVE COMMITTEE; G. A. WAHLGREEN, MANAGER; WILLIAM L. HUGHSON, PRESIDENT DEALERS' ASSOCIATION.

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ing the week of its presentation is to be a plea for the "out-of-doors" via the motor car, truck and tractor.

Only through a perfect blending of out-door wonderlands and the motor industry are the beauties and benefits of each realized, according to the new vision of the big and progressive minds in the automotive industry. Selling climate and good roads and the whole out-of-doors wonderland will be the business of the salesmen of the future while they are marketing the output of the factories, dealers say.

By means of the showing of the last word in motor vehicles the post-war revival of the automotive industry in the United States will be portrayed. This revival founded upon the experience of wartime manufacture has much to offer, and the fruits of war developments are being awaited with the greatest interest by the Pacific Coast enthusiasts.

The natural growth of the industry is not alone responsible for the promised greatness of the 1920 show.

Coming back to new triumphs in the industrial world from well-earned laurels on the battlefields, the motor brings a new idea.

Get into the "out-of-doors" and stay there with passenger car, truck or tractor! This is its 1920 message to the world in the West of America where good road building, agricultural development and the Nation's outdoor wonderland playgrounds wait for complete mastery by the motor. This is the trend of the wonderfully re-adjusted industry which is rapidly forging toward first place in big business.

While the growth of the industry in past years has been little short of phenomenal, the next few years will see unprecedented development, according to experts. And the major portion of this development must come to the great West, where there is still room to turn around and enjoy Nature's gifts while the soil waits for its first turning by the tractor.

The next few years will be great years in the motor industry and the 1920 Pacific show will herald this new era.

The Exposition Auditorium show is calculated to turn Western attention toward the "out-of-doors" with the motor as the guide, and if it does not succeed it will have failed in the mission set for it by its sponsors and managers.

In point of proprietorship the show will be the same as during the three past years. It is sanctioned by the Motor Car Dealers' Association of San Francisco, while George A. Wahlgreen, veteran industrial showman, is the managing director. The dealers' association combines the strength of the distributing system on the Coast, and has as its officers: W. L. Hughson, president; T. A. Skinner, vice-president; I. J. Morse, secretary; Roy B. Alexander, treasurer, and A. F. Lemberger, general manager. These with C. N. Weaver, J. W. Frawley, E. W. Milburn, H. B. Slocum and R. F. Thompson constitute the board of directors.

This year is to be one of entertainment for San Francisco, and the automobile show will be the first major attraction. The Golden Gate city seems to enjoy and thrive on carnival times and gala affairs and she will have ample opportunity to set herself for the year with the throngs here at the show. San Francisco loves the carnival time, and the show spirit will extend far beyond the doors of the Exposition Auditorium throughout the entire city, which will be in fancy dress for the week.

PASSENGER CAR EXHIBITORS.

Anderson-Smith Motor Co., Scripps-Booth	Miller-Rector Co., Allen
Earle C. Anthony, Inc., Packard, Reo, Dort	Pacific Nash Motor Co., Nash
J. W. Benson Co., Stephens Salient Six	Pacific States Motors, Daniels
Cadwalader-Chase Co., Velie	Peacock, Alexander & Hunter, Cleveland
California Motor Sales Co., Cole	Peacock Motor Sales Co., Chandler
Geo. Campe Motor Co., Chevrolet	Pierce-Arrow Pacific Sales Co., Pierce-Arrow
Cunningham Car Agency, Cunningham	Pioneer Motor Co., Peerless
Don Lee, Cadillac	C. D. Rand & Co., Jordan and Mercer
Du Broy Motor Co., Saxon	Frank O. Renstrom Co., Grant and Briscoe
Al G. Faulkner Co., Inc., Marmon	Lou H. Rose Motor Co., Chalmers
Franklin Motor Car Co., Franklin	Roamer Motor Car Co., Roamer
Frawley Motor Co., Mitchell	H. A. Sellers, Paige and Dorris
Greer-Robbins Co., Hupmobile	C. N. Weaver Co., Studebaker
Hartmann Motor Sales Agency, Apperson and Biddle	Western Motors Co., Kissel and Maxwell
Hawley-King Co., Oakland	Willys-Overland Pacific Co., Willys-Knight and Overland
Haynes Auto Sales Co., Haynes	The Winton Co., Winton
Howard Auto Co., Buick	White-Humphries Motor Co., Standard and Commonwealth
W. L. Hughson Co., Ford	Wright Motor Co., Columbia Six
Charles H. Kaar Co., Lexington	Coast Motor Car Co., Anderson
J. W. Leavitt & Co., Oldsmobile	King, Holloway Co., McFarlan
F. J. Linz Motor Co., National and Liberty	Pacific Motor Corp., King Eight
Locomobile Company of America, Locomobile	L. J. Borie & Co., Templar

Manager Wahlgreen estimates the attendance this year will exceed the 100,000 mark, this estimate being based on the attendance of other years and the reservations long since taken in all San Francisco and Oakland hotels.

Another feature which is destined to lift this year's show far above the level of all previous exhibitions of a similar nature is the arrangement by which the special exhibits of all the big Eastern factories will be brought to this city. Assurance has been received by Manager Wahlgreen that all the exclusive models, representing every line of passenger car, will come to San Francisco direct from the Chicago show. They are many and will add greatly to the show's interest.

When installed the show's decorative scheme will transform the interior of the Exposition Auditorium into a California valley, bordered by its mountain ranges and traversed by its countless miles of highways.

Into this scene the various exhibits are to be worked, each in its appropriate niche, each carrying out the dream of Manager Wahlgreen to demonstrate at last his conception of the motor car in relation to the natural attractions of the West.

And the picture will be most complete.

Every available foot of display space has been reserved and scores of requests for accommodations have been refused. With the huge showhouse, the largest in the West, filled to overflowing, motor enthusiasts have the prospect of seeing the greatest range of exhibits possible.

Included in the unduplicated list of exhibits will be:

Fifty-four separate and distinct lines of passenger cars, exhibited by forty-four individual distributors and dealers, and covering 60,000 square feet of floor space.

Fifty-five different makes of trucks, tractors and trailers, displayed by forty-two exhibitors, and covering 33,000 square feet.

Sixty exhibits, including all kinds of motor accessories and appliances, covering 15,000 square feet.

In the planning and execution of his latest production, Mr. Wahlgreen has had the co-operation of dealers and enthusiasts from all parts of California and adjacent states. With this backing he more than expects to make good his boast that the coming show will be the biggest and most colorful spectacle of its kind ever held here or elsewhere.

It is the accomplishment of his long-dreamed-of plan for

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TRUCK, TRAILER AND TRACTOR EXHIBITORS.

California Motor Sales Co., Sandow
Chester N. Weaver Co., Day-Elder
Geo. Campe Motor Co., Chevrolet
A. A. Rembold, Gary Trucks
Pacific Trailsmobile Sales Co., Trailsmobiles
Browntruck & Trailer Co., Browntrucks
Clydesdale Motor Car Co., Clydesdale
Autocar Sales & Service Co., Autocar
Earle C. Anthony Co., Inc., Packard, Reo
E. L. Williams Co., Ralston Trailers & Truck Attachments, Moore 4-Speed Transmissions
Goldman Auto Co., Kelley-Ford Truck, Kelley Internal Gear Attachment
Western Motors Co., Maxwell, Kissel
C. P. Kiel & Sons, Commerce
California Olympian Co., Transport Truck
J. W. Leavitt Co., Economy
Pioneer Motor Co., Republic
Utility Trailer Sales Corp., Utility Trailers
Hirsch Bros., Traffic, Diamond T
Wm. L. Hughson Co., Federal Truck, Lee Line, Fordson Tractor, Power Farming Machinery
Pacific Nash Motor Co., Nash
Butler-Veitch, Fageol Trucks and Tractors
Frank O. Renstrom Co., Grant and Atterbury Trucks, Twin-City Tractor
MacDonald Truck & Tractor Co., MacDonald
Peacock Motor Sales Co., Service
Phillip S. Cole, Gramm-Bernstein
H. A. Seller Co., Stewart, Signal and Paige
Thompson Bros., Sewell Cushion Wheel
Reliance Trailer & Truck Co., Reliance Heavy Duty Trailer, Reliance Industrial Tractor
McFarland Motor Co., Duplex
Wilbur Knapp, Four-Wheel-Drive Truck
International Harvester Co., of America, International Truck
Coast Motor Co., Master Truck
Vim Truck Co., Vim Trucks
Linn Tractor Co., Linn Tractors
The Kettering Tractor Co., Kettering Tractors

a motor car exposition typifying the spirit of the West that holds Wahlgreen's interest in the show. He has dipped lavishly into the large fund at his disposal to give the public the right to judge his effort. More than $50,000 is being spent on the decorations of the auditorium alone.

H. Ledeboer and Leo Lintelli, both of whom won undying fame by their work at the Panama-Pacific Exposition, are supervising the construction and installation of the decorations. The artists have been working for weeks to execute the Wahlgreen motif.

From plans drafted by Clarence Ward and J. Harry Blohme, San Francisco architects, a circular peristyle of fluted white columns and entablature, 150 feet in circumference and 60 feet in height, is to be constructed. This is to be erected under the great dome of the Auditorium, and extending to the lower reaches of the big balcony.

An awning will be superimposed over the peristyle, and supported on bronze trusses, encircling the colonnade. Through this awning will come the effect of California sunshine, while through the open circular space not covered by the awning will appear a cloudless blue sky.

Distant hills and valleys and mountain ranges will be seen through the pillars of the colonnade, the whole giving the effect of the scenic beauty which has made California the Mecca of motorists.

Eight large fountains, ten feet in height, will play around the base of the peristyle. Vari-colored lights will shed their brilliancy on the scenic masterpiece.

Aside from the decorative scheme, the show is to be out of the ordinary in regard to amusement features. A musical program including everything from "jazz" to operatic numbers is to be offered. The famous 67th Coast Artillery Band, which recently returned from overseas, will furnish music throughout the show. Art Hickman and his nationally renowned "jazz" orchestra will be featured.

Aside from its show features and its amusements and its appeal from a carnival standpoint, the 1920 motor car exposition in San Francisco will more than ever before place emphasis upon the importance of San Francisco in the automobile trade in the Pacific States.

Practically all of the largest automobile concerns look to San Francisco as their western distributing point for Washington, Oregon, Nevada, Montana, California and the Orient. This recognition is drawing the biggest men in the industry to the show.

Geographically, San Francisco is ideally situated to carry on the distribution of motor cars, trucks and tractors west of the Rockies. Water and rail transportation stretches in all directions, and the highways radiating from the Bay district afford splendid facilities to dealers serving the Western territory.

The interest displayed by the general public and the automobile trade in the coming event is greater than at the three previous shows, dealers say. Distributors and factory representatives have come to look forward to the annual exhibition in San Francisco as the opening of the spring business for the entire Pacific Coast.

As all other expositions of the East are subsidiary to the New York show, so the West looks to the San Francisco exposition.

The new Western idea to harmonize the great "out-of-doors" and the motor car industry—two institutions which are inseparably aligned—the big men of the motor trade here will sell climate and soil as well as automobiles. It is their idea to demonstrate that each is necessary for the fullest realization of the other. So, instead of merely admiring the handsome cars in their conventional settings, visitors will have the treat of a tour through the State's scenic byways during their inspection rounds of the different exhibits.

This is the 1920 show idea on the Coast.

Coming down to facts, the 1920 show is to exceed the 1919 exposition in point of floor space by 35,000 square feet. While last year's meeting of motor fans drew an attendance of 80,000, the coming event is confidently expected to soar well above the 100,000 mark.

Comparative statistics of the 1919 and 1920 shows as prepared by Wahlgreen, show:

1919 Show.

Passenger cars, 45,000 square feet; trucks and tractors, 20,000 square feet; accessories, 8,000 square feet. Total 73,000 square feet.

Number of passenger car exhibitors, 35; number of truck and tractor exhibitors, 25; number of accessory exhibitors, 48.

Number of passenger car makes displayed, 41; number of truck and tractors, 35; number of accessory lines, 48.

Attendance 80,000.

1920 Show.

Passenger cars, 60,000 square feet; trucks and tractors, 33,000 square feet; accessories and appliances, 15,000 square feet.

Number of passenger car exhibitors, 45; number of truck and tractor exhibitors, 60.

Number of passenger car makes to be exhibited, 54; number of truck and tractor makes, 55; number of accessory lines, 80.

Estimated attendance, more than 100,000.

All reports received from the Eastern shows indicate that the attendance, interest and sales were greater than at any previous exposition held there. Many Coast dealers who attended these shows have expressed disappointment in the number of cars allotted to them for the coming season. Manufacturers have been compelled, they report, to refuse millions of dollars' worth of business owing to the fact that the demand greatly exceeds the supply.

With this condition prevailing in the East, it is predicted that the coming show in San Francisco will have a record attendance, with the expectation that the retail sales will surpass the productions and the allotments of the various manufacturers.

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The lateness of the manufacturers in producing their 1920 models, which will be exhibited at the San Francisco show, means that the cars to be displayed will include stock models seen for the first time on the Pacific Coast.

On the face of the annual report just submitted by the State Motor Vehicle Department 1920 will go far beyond the dreams of the most optimistic of a few years ago. California's showing bears out the pre-show views of the trend of the industry.

Here are some interesting figures on the growth of the motor industry in the State as compiled from the registrations of motor vehicles:

Year	Registrations
1914	123,516
1915	163,795
1916	232,440
1917	306,916
1918	364,800
1919	542,278

Among the counties showing marked increases in registrations are:

Alameda with an increase of	9,255	or 37%
Santa Clara with an increase of	4,341	or 37%
Contra Costa with an increase of	1,477	or 37%
San Francisco with an increase of	11,719	or 32%
Los Angeles with an increase of	33,735	or 31%
San Joaquin with an increase of	3,102	or 30%
Kern with an increase of	2,393	or 24%
San Diego with an increase of	2,790	or 21%

The State Motor Vehicle Department has distributed to the state and counties during the past six years for maintenance and improvement of the public highways the sum of $14,328,366.31. It will be noted from the following statement that there was approximately one million dollars more distributed in 1919 than in 1918:

1914	$1,182,457.14
1915	1,864,985.57
1916	2,116,443.11
1917	2,494,537.59
1918	2,842,639.58
1919	3,837,303.32

Last year's motor vehicle registrations place California in third place among the states in point of motor development and individual ownership, the state having slipped out of fifth place, and passing Pennsylvania and Illinois. Another year without question will see California lead the Nation in motor vehicle registrations, and in the immediate future this promised greatness for the motor industry will be reflected at the Fourth Annual Pacific show.

I. J. Morse, Pacific Coast manager for the Locomobile Co., and secretary of the San Francisco Motor Car Dealer's Assn., expressed what seems to be the general opinion of the big Coast dealers concerning this year's show and the prospects for 1920 when he said:

"I have seen many shows during my twenty-one years in the automobile business, and I have felt since the first real San Francisco show held in 1917, that for setting, character of decoration and exhibits, the Pacific Coast shows have been second to none held anywhere in the United States.

"This year's show, I am convinced, will be the greatest ever held out here, and it is well considering the prospects for 1920 business. I believe the business this year will be limited only by the number of vehicles offered for sale.

"This will be the biggest year in the history of the industry."

ACCESSORY EXHIBITORS.

E. N. Smith
National Auto Signal Co.
Sturges Tire & Rubber Co.
Hencken & Burner
Day-Nite Stop Signal Co.
The Laidlaw Company of Calif.
Gillig Bros.
Reliable Auto Safety Signal Co.
Champion Spark Plug Co.
Ballard-Sutcliff Co.
The California Simonizing Co.
E. A. Cornely, Inc.
Hercules Mfg. & Sales Co.
Double Seal Ring Co.
Gruss Air Spring Co.
Larkins & Co.
Thos. B. Lamb Company
Westinghouse Air Spring Co.
T. D. Anderson
U. S. Auto Appliance Co.
Straitlyne Filler Co.
Geo. Scalch Co.
F. P. Trask
Kohler & Chase
Lathan Auto Supply Co.
Alemite Lubricator Co.
Gill Piston Ring Co.
Korex Mfg. Co.
Musso Outing Equipment Co.
Clark Turner Piston Co.
Motor West Publishing Co.
DeLuxe Windshield Co.
Presto Felt Mfg. Co.
Edward Sales Co.
Allied Industries, Inc.
Western Agencies
Auto Top Mfg. Co.
Able Mfg. Co.
Unique Auto Specialty Co.
A. M. Walsh
Ensign Carburetor Co.
Hughson & Merton Co.
C. Gogle Hand Forged Tool Co.
Diamond Signal Co.
C. J. Hoskins, Front Drive
M. & M. Mfg. Co.
Edwine T. Merry
Automobile Parts Co.
Edward Peters & Co.
C. E. Herrick
Hobbs Storage Battery Co.
Harvey Wheel Products Co.
Easy Filled Grease Sup. Co.
Auto Styles Co.

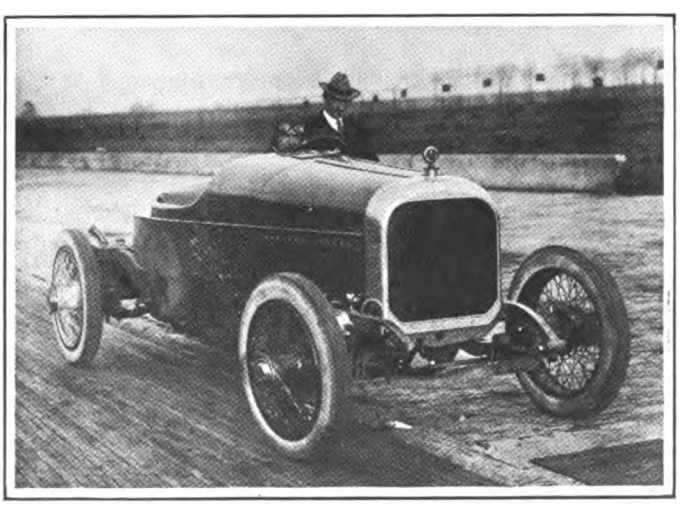
Berlin's Tire and Fuel Situation

An American writes that Berlin, Germany, is not a place to seek for all the comforts ordinarily found in a large city. He says the gaiety is hysterical; that Tuesdays are meatless and Thursdays fatless; that use of automobiles for pleasure is put aside indefinitely owing to rarity of fuel; that some taxis have four rubber tires, others only two rubber and two spring tires; others still, two spring tires and two steel tires. Bread, meat and potato cards are issued. Milk is almost unknown. One-fourth of a lump of sugar is a portion.

Stock Car Travels 91 Miles Per Hour

In official A.A.A. time trials, a stock Cunningham eight-cylinder car driven by Ralph DePalma, at the Sheepshead Bay track, covered 10 miles in 6 minutes, 35.4 seconds, or at the rate of nearly 91 miles per hour, the fastest time ever made by any stock car in this country. The Cunningham in question was driven from the factory a distance of 410 miles preparatory to being put on the speedway. Following are the times for 6, 8 and 10 miles for which times the makers of the car hold a certificate of performance:

Miles.	Time.	Miles per hour.
6	3:57.8	90.8
8	5:16.6	90.96
10	6:35.4	90.95



SPEEDY STOCK CUNNINGHAM WITH DE PALMA AT WHEEL.

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Echoes of the Chicago Show

Attendance Breaks Records at Passenger and Motor Truck Exhibits—Good Start Delayed by "Flu."

By F. ED. SPOONER.

CHICAGO, Feb. 2.—The combined national passenger and motor truck exhibits in this city last week formed the most complete thing of the kind on record. There was little complaint by anyone about anything, and certainly none as to business done and in prospect, unless by those who could not get their orders accepted.

The "epidemic" of the "flu," which authoritative observers of vital statistics say is not influenza but plain grippe, etc., etc., and no more epidemic than in ordinary years at this time, undoubtedly helped the doctor business, but it hindered the show from getting a good start by delaying the arrival of many. This was why there was "something the matter" with the numerical strength of the throng on the opening Saturday night and Sunday, January 24-25.

Every train on Monday brought people into town in swarms. Trade men packed hotel lobbies, looking for kind Samaritans who would let cots be placed in their rooms. Outside of every hotel checking room, grips were piled high. "What Will I Do for a Bed Tonight?" was the prevailing song. The hotels had asked ordinary travelers not to "make" Chicago during automobile show week, and otherwise did their best to serve automobile and motor truck men.

As for the public, the attendance on the opening afternoon and night exceeded that of previous Chicago shows, and by coincidence the gate money was within 50 cents that of the Eastern show. The weather was unusually mild compared with the last show of two years ago, when Chicago was just recovering from a blizzard. However, late in the week old Boreas blew and the temperature went zeroward.

Monday morning crowds were waiting for the Coliseum doors to open. By Wednesday the chances for new attendance figures were bright. The double lineup at the Coliseum was a block long. Not so bright was the luck of many seeking hotel accommodations. Chairs in lobbies provided "rest" for quite a number.

Last Saturday saw a sudden change. It was the day for disappearing. With their business transacted by Friday, all who could took leave as quickly as possible, and all trains carried several sections. Scores of visitors were held—partly by "flu," but mostly by pneumonia. Some very sick men, but none reported dangerously ill.

When taps sounded Saturday night the passenger car show buildings—Coliseum, First Regiment Armory and Greer Building—were packed with people. Records were broken throughout the week. The truck show was not expected to draw large crowds, but the attendance surprised the exhibitors nevertheless.

Many factory men went from Chicago to the Twin City show at Minneapolis. The Kansas City automotive and tractor show will draw many of them, and after that comes Salt Lake City; then San Francisco, with its fourth annual Pacific Automobile Show.

The attendance and business done at the truck show was a matter of general comment. Farmers and stock men were numerous.

Motor Truck Show Outlook.

One great national motor truck show, to be held in midsummer, between planting and harvesting time, is being talked of. Detroit, Chicago and Omaha are mentioned. Exhibiting tractors at the same time and place is favored.

The motor truck men are inclined to believe there is a disadvantage in having their show and the passenger car show held in the same week. It may be that they overlook the important factor, on the other hand, that many trade men who travel long distances, and a large percentage of whom handle both passenger cars and trucks, hardly could make two journeys, and that the attendance of these trade men is quite as essential, if not more so, than that of the show-hound, the casual visitor or the prospective "consumer" of cars or trucks. The motor truck exhibitors have the feeling that with the passenger car show in town at the same time, theirs is a side show. They are prone to believe that, numbering over 230 successful manufacturers, they should occupy the center of the stage when they do exhibit. They notice that the passenger car publicity gets the most newspaper space. They have not decided upon concerted action, but talk is plentiful and it has a kick in it.

However, the motor truck show did not draw protests from exhibitors and visitors, as did the one in New York. Though the weather was cold in both cities and the New York building frigid, the Amphitheater building in Chicago was kept warm even while doors were opened to admit exhibits.

There were 365 makes of motor trucks displayed, and bright colors and snappiness of design were factors. There were pioneers, also. The Selden of 1877 and others as interesting were exhibited.

One of the largest news morsels at the motor truck show was a real mouthful—indicative, too, of the magnitude which the industry is reaching—the deal closed by George D. Wilcox, director of sales and advertising for the Commercial Motor Car Co., Detroit, with W. J. Dougherty, Kansas City, amounting to $6,000,000. Mr. Dougherty is the largest distributor of trucks in Kansas City and has relinquished another well-known Michigan truck for the Commerce. His contract specifies quantities and shipping dates. The deal covers the territory adjacent to Kansas City, all of Kansas and Oklahoma, and the northwestern part of Arkansas. It means hastening Commerce expansion plans; the employment of many more men.

During the show the Old Reliance truck, which had been touring the Middle West for the United States Rubber Co. to advertise the fact that the company was the first to make pneumatic tires for trucks, completed its 7,000-mile run in eleven states—without a puncture—and was exhibited at the G-M-C show rooms.

Highway Transport Conference.

The sessions of the Highway Transport Conference, in connection with the truck show, were of great importance, the moving pictures and noted speakers proving strong attractions.

Indiana is known as the interurban state, having started early with electric interurban lines, which now are finding the motor truck express lines strong competitors for

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business. At the Wednesday night Highway Transport Conference, Tom Snyder, Indiana State Highway Commissioner, said the motor truck has become the greater link between farmers and city folk. It is the itinerant merchant, doing the farmer's merchandising at his greatest convenience, and every line is thriving. The vast waste of products of former times, revealed startlingly by Government surveys, is being eliminated.

Notes of the Show.

One of the men who helped start the term "automobile row" attended the motor truck show—F. J. Pardee, of Los Angeles, Western sales manager of the Diamond T Motor Car Co. Seventeen years ago he established the second automobile store on Michigan Ave., Chicago.

At the Society of Automotive Engineers' banquet, Wednesday night, Gen. C. C. Williams, chief of ordnance, U. S. Army, was the principal speaker. The society helped greatly during the war.

At the Commerce Motor Car Co. dinner to Midwest dealers, Tuesday night, a $100 advance on all models, dating from February 15, was made. George D. Wilcox, in charge of sales and advertising, made a rousing address. Other speakers were R. C. Gartley of the Gartley-Weston Co., Detroit; Robert Enos, general manager of the Torbensen Axle Co., Cleveland; R. A. McCorkle and Charles Bilz of Denver.

The fact of the passenger car and motor truck shows being held in the same week accommodated the farmers and stock men, whose attendance at both has been remarkable.

As in New York, every night was society night.

Charles G. Saker, Reo dealer in Johannesburg, South Africa, who attended the show, was amused at American complaint of fuel cost. The 3,000 motorists of his city pay the equivalent of $1.20 per gallon. They do not let their engines run when not in use. There is an internal revenue tax of 10 cents a gallon on "petrol," much of which is made from sugar cane residue. There are no oil wells.

Man must sleep at least once during an automobile show week; so even sleeping cars were set aside in the train yards to care for the overflow.

Would fewer banquets during show week mean fewer cases of "flu"? Shut up!

Oil-wealthy persons in Texas, a Fort Worth dealer said, are seeking higher priced cars. With roads being improved, touring is increasing remarkably.

Iowa has come to the horseless farm, said J. D. Eggleston, highway commissioner of that state, at the Highway Transport Conference; the truck being used for transport, the tractor for farming and the passenger car for visiting; the first the most indispensable of the three.

A noteworthy fact developed during the Chicago show is that many successful distributors of past years, who made their pile and retired, have heard the call of opportunity again and are making strong efforts to secure lines to represent.

The Detroit Free Press annual automobile directory, compiled by F. Ed. Spooner and distributed at the Chicago show, contained 721 listings of companies, with names of more than 5,000 men of these companies. The supply was 10,000 copies, and was exhausted by the middle of the week.

Pacific Coast men were more numerous than ever, and it is obvious that their presence, in quest of lines and deliveries, is greatly due to the road-building activity on the Coast and in adjoining states.

A party of 26 dealers and distributors arrived from Omaha on Sunday night. Monday, 28 arrived from Texas. Many sections sent large delegations.

Salesmen noted the growing proportion of women visitors, not to see them but to give the once or twice-over to the exhibits, in surprisingly practical fashion.

Harassing sights—manufacturers sitting back; closing no contracts; reason—full up with contracts already. It is harassing to distributors and dealers.

The automobile salon for which the Elizabethan room in the Congress Hotel was used was continuously full.

One recently announced maker who failed to get even his first car to Chicago said he had turned down offers for 40,000, having sold his output even prior to completing his design. This example indicates what the situation as a whole is like.

Foreign demand is to be for about as many automobiles as will be turned out in total this year, in America. Their representatives were at New York and are here. They have had little satisfaction as far as contracts specifying delivery are concerned.

Wednesday the customary open season for banquets began.

The social instinct was as rampant as at New York. Everybody and his friends broke bread together. The more important business meetings included those of the N.A.C.C. directors, Wednesday; National Automobile Dealers' Association, Tuesday; National Highway Traffic Association, Wednesday. The Society of Automotive Engineers dined on Wednesday.

Owing to the "flu," the N.A.C.C. directors did not meet on Thursday, as intended. Committee meetings also were called off. These were practically the only events eliminated.

Thousands have joined the Old Timers' Club. The rooms of James A. Braden and Christian Girl were crowded during the week by seekers of membership badges.

A marked feature was the demand for motor trucks for export. It was not so much a question of what truck as of any trucks. Demand was greatest for the 1½-ton. South America, New Zealand, Australian and African representatives were the strongest bidders.

F. J. Pardee, of Los Angeles, Western sales manager for the Diamond T motor truck, attended the show. He established the second automobile store in Chicago's great row, seventeen years ago.

Jacob Hirsch, of San Francisco, came to the show not so much to see the show as to try to get motor trucks—100, if possible.

After attending the New York show, and before the Chicago affair, Charles A. Jory, of the Columbia Auto Sales Co., San Francisco, died in Detroit. His body was taken West by A. D. Plughoff of J. W. Leavitt & Co. Mr. Jory was well known throughout the trade.

Meeting a complete Bethlehem motor truck face to face in the hotel room used by the company made visitors gasp and ask "How the ——?" The truck had been taken apart outside, in 1¼ hours, carried piece by piece to the room, and reassembled in three hours.

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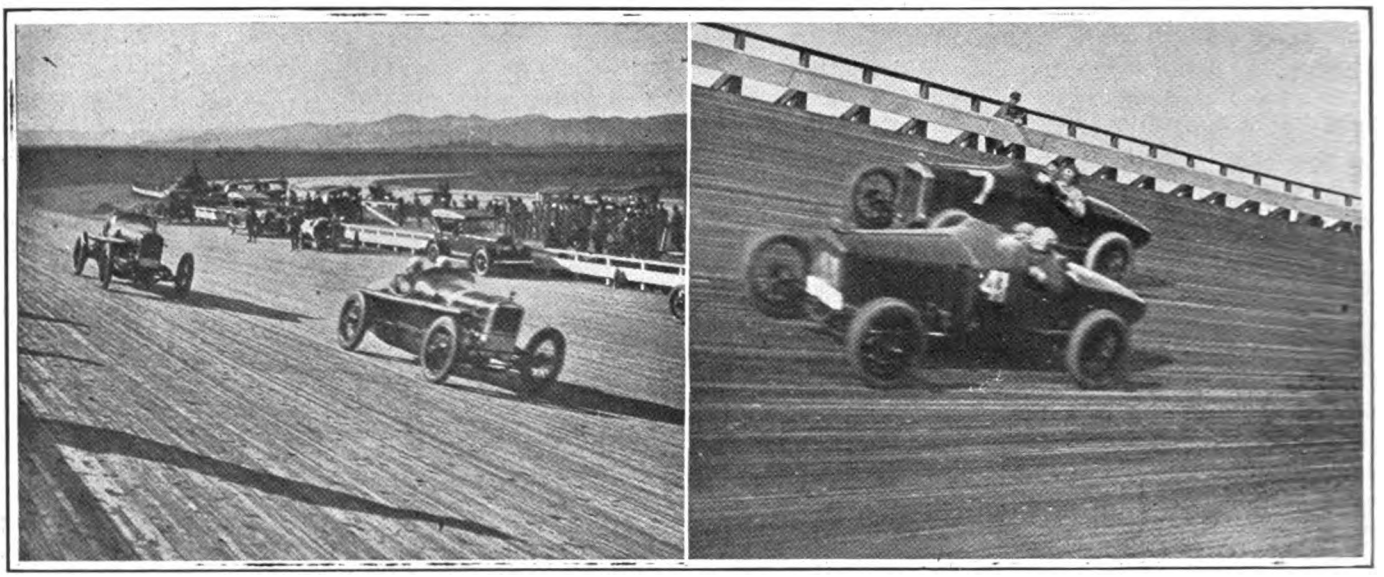

JOE BOYER AND ROSCOE SARLES IN FRONTENAC CHRISTENING NEW SPEEDWAY AT 110 MILES AN HOUR.

L. A. Track Proves a Wonder

Motors Roar as Soon as Last Nail Driven and Boyer's Frontenac Makes Course at 110 Miles Hour

MANY motor fans were given their first glimpse of speed well above the century mark on the very first day that practice opened on the new Los Angeles Speedway. The last carpenter had scarcely removed his tools from the track when the racers swept around it. Joe Boyer, Detroit millionaire driver, with his Frontenac, after a couple of preliminary circuits turned the track in a little better than 110 miles an hour, thereby fulfilling the predictions of Jack Prince that the new track would be capable of at least that speed. The new speedway thereby stands established as the fastest 1¼-mile track ever built, and the drivers who have tried it declare that it is the equal of any in the world.

The entry list for the opening championship event, February 21, reads like a directory of America's foremost racing pilots. Many of the most prominent figures of the motor industry are already present or en route. The duel between Ralph De Palma and Tommy Milton will be one of the features of the race that is bound to be long remembered. Both are top-notch drivers, and both are driving the fastest eight-cylindered racing creations that mechanical skill has yet produced. In the French Ballot which De Palma will drive, and the American Duesenberg of Milton's, American and French mechanical genius will be pitted against each other.

One feature of the great new track that makes a lasting impression on the visitor is its remarkable setting. F. E. Moscovics, vice president of the Nordyke & Marmon Co., Indianapolis, pronounces it the most beautiful sporting plant in the world. His interest is notable because, in days agone, he lost a fortune in promoting a speedway in Los Angeles. He will be a speaker at the dinner preceding the opening of the present meet.

From the interest that has already been aroused in the fir[illegible] there can be no doubt that the events on the [illegible] Speedway are destined to become among the most noted in motordom. Its unusual speed capabilities will add decidedly to the prestige of events here; and whoever the lucky driver is who pulls down the capital prize of $10,000, he will know that he has been in a race.

The speed at which the race will be won will depend upon the mechanical endurance of the cars and the physical endurance of the drivers. Smooth though the track is, speed past the 100-mile mark is a terrible strain upon car and driver alike. It is virtually certain in the minds of those who have watched the daily workouts that it will be necessary for the victor to average considerably better than 100 miles an hour to win. The entries are:

R. C. Durant—Chevrolet
Eddie Hearne—Chevrolet
Eddie Pullen—Chevrolet
Ira Vail—Philbrin Special
Roscoe Sarles—Frontenac
Joe Boyer—Frontenac
Ken Goodson—Frontenac
Joe Thomas—Frontenac
Tommy Milton—Duesenberg
Jimmy Murphy—Duesenberg
Arthur Klein—Peugeot
Reeve Dutton—Stutz Special
Waldo Stein—Oldfield Special
Ralph Mulford—Meteor Special
Toland Nicholson—Hudson Special
Ralph De Palma—Ballot
W. W. Brown—Richards Special
Eddie O'Donnell—(Probably Hudson Special)

Following is a list of point-winning racers in principal track and road events in 1919; the points having been awarded at 10 per mile for first place, 8 per mile for second, 6 per mile for third, 4 per mile for fourth, 2 per mile for fifth. The names are in order of total number of points won:

1—Eddie Hearne, 8,960; 2—Roscoe Sarles, 7,288; 3—Howard Wilcox, 6,200; 4—Joe Boyer, 4,730; 5—Tommy Milton, 4,685; 6—Gaston Chevrolet, 4,125; 7—Cliff Durant, 3,990; 8—Louis Chevrolet, 3,890; 9—Dave Lewis, 3,330; 10—Jules Goux, 3,000; 11—Ralph Mulford, 2,935; 12—Ira Vail, 2,704; 13—Art Klein, 2,700; 14—Kurt Hitke, 2,102; 15—Albert Guyot, 2,000; 16—Eddie Pullen, 1,900; 17—Ed Schillo, 1,806; 18—Louis Lecocq, 1,500; 19—Eddie O'Donnell, 1,500; 20—Tom Alley, 1,000.

Chester S. Ricker, assisted by Theo. E. Myers and Odis A. Porter, will have charge of the timing and official scoring. Mr. Ricker, now a Hoosier, was formerly a Californian, having lived at Pasadena. He is a consulting automotive engineer of Indianapolis now, having Nordyke & Marmon, Midwest Engine Co., of Indianapolis, and the Trailmobile Co., of Cincinnati, among his most prominent clients. His first start in engineering training was ob-

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tained at Throop Polytechnic Institute at Pasadena and the finishing touches put on at Cornell. For the past seven years Mr. Ricker has had full charge of the timing and scoring of the races on the Indianapolis Motor Speedway. He also timed and scored the first race on the Chicago Speedway; also races on the Omaha, Minneapolis, Cincinnati and Sioux City Speedways.

Odis A. Porter is president of the Porter Electric Co., Indianapolis, and has always accompanied Mr. Ricker as chief timer. His duties are supervising the operation of the $2,000 electric timer owner by the Warner Speedometer Co., but has been entirely re-designed and rebuilt by Mr. Porter under the direction of Mr. Ricker since it was purchased by the Indianapolis Motor Speedway.

Theo. E. Myers, who will assist as chief scorer, is secretary and general manager of the Indianapolis Motor Speedway. Mr. Myers is the dean of speedway managers, having always acted in that capacity since the first race in 1909 at Indianapolis.

Oil Lease Bill Good for the Coast

The passing of the national oil leasing bill, which provides for exploration of oil lands in California and other large oil producing states, is expected to be followed by being signed by the President. Senator Phelan of California had pushed the idea for several years. As in California alone the present shortage of crude oil products is said to be 150,000,000 gallons, the passage of the bill is of great importance.

The new bill's provision for payment of royalties to the Government and state is beneficent, as 70 per cent of the payments already made will go to the reclamation fund, and 20 per cent will be received by the state on all past production. This will give the state $500,000 at once. Of future royalties the reclamation fund will receive 52½ per cent and the state 37½ per cent.

The Coast has been fortunate as to gasoline. In several states, the price now averages over 25 cents, and kerosene has advanced a cent.

Calendar of Coming Events

Feb. 21-28—Fourth Annual Pacific Automobile Show, Auditorium, San Francisco, Cal.; G. A. Wahlgreen, Mgr.

Feb. 21—New Los Angeles Speedway, Beverly Hills, Cal. Opening event.

Feb. 23-28—Portland, Ore., Automobile Show, Ice Palace; M. O. Wilkins, Mgr.

Feb. 23-28—Portland, Ore., Truck Show, Armory; M. O. Wilkins, Mgr.

March 2-6—Denver, Colo., Car and Truck Show.

March 15-21—Seattle, Wash., Automobile Show, Pioneer Auto Garage; William J. Coyle, Mgr.

March 15-22—Great Falls, Mont., Automobile Show.

March 30-April 4—First Annual Pacific Coast Automotive Equipment Exposition, Auditorium, San Francisco, Cal.

April—Los Angeles Automobile Show.

April 21-28—First Pacific Coast Aeronautical Show, Auditorium, San Francisco, Cal.; Auspices Pacific Aero Club.

May 7-8—Fourth Annual Los Angeles-Camp Curry Economy Run.

June 1-5—Del Monte, Cal., Annual Meeting Automotive Equipment Association.

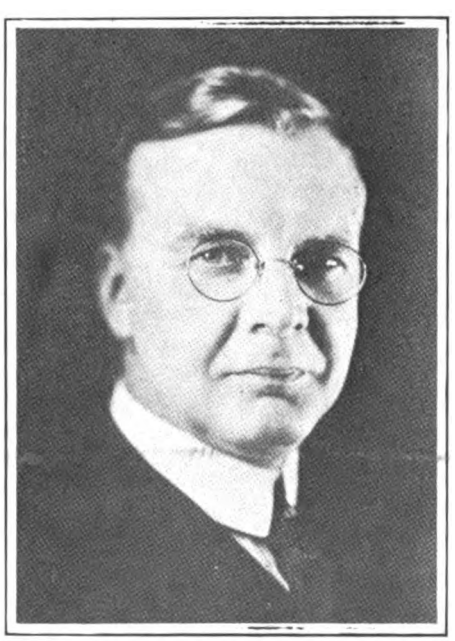
One Way Only on Fifth Avenue

By this time Fifth Avenue, New York City, will have become a one-way-only street during certain hours, on the important part between Thirty-fourth and Fifty-ninth Sts. The congested condition of New York streets is indicated by a recent picture of the one block of Forty-second St. between Fifth Avenue and Sixth Avenue. There were six lines of automobiles and a couple of horse-drawn commercial vehicles in the rather narrow thoroughfare.

National Truck Tour Will be Air-Tired

The first national motor truck reliability contest, which is to begin and end in Omaha in June, will be limited to trucks up to and including 3½ tons, using pneumatic tires. It is believed the air tire will do more to develop motor truck use than was done for bicycles in the early '90s. Motion pictures will be taken throughout the 3,000-mile run and will be widely shown afterward.

CHESTER S. RIKER, who will direct timing and scoring.



THEO. E. MYERS, who will act as chief scorer.

ODIS A. PORTER, who will act as o....cial timer.

TRIO OF EXPERTS WHO WILL KEEP TABS ON THE CONTESTANTS IN THE OPENING CHAMPIONSHIP EVENT AT NEW LOS ANGELES SPEEDWAY.

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Motor West
THE MOTORING AUTHORITY OF THE PACIFIC COAST

Established 1907

AN ILLUSTRATED AUTOMOBILE MAGAZINE OF QUALITY, ISSUED SEMI-MONTHLY.

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FEBRUARY 15, 1920

EXPLANATION.

Through an inadvertence the names of S. S. Sprecher and F. K. Perkins were omitted from the list of authorized "Motor West" subscription agents published in our issue of Feb. 1st.

Shows, and the Man with the Scythe

BLAME the "flu"—that is the easy way to shirk responsibility for the good men gathered in by the gaunt old Man with the Scythe after this year's national shows.

Or, look deeper. Then, perhaps, you will put the blame where it really belongs, and do something personally to apply the remedy.

An overstrained condition, perhaps not even suspected, has much to do with every case of illness. Add a prodigious amount of carelessness, in the way of long hours, extra food, and so on, and the mixture is right for a fight with fate.

It is pitiful that show practice should include absolutely reckless risk of lives through disregard of rules of living which, in the everyday routine, are carefully observed by most people. Let's wake up and do something sensible about it.

California's Road Plans in a Pickle

THAT it would have been wise if California's Legislature had provided for paying more than 4½ per cent interest, if necessary, on the $40,000,000 highway bond issue authorized by the people last July, is obvious.

That it would be wise for all interests whose increased prosperity depends upon that of the people, to see that the bonds are bought even with only 4½ per cent interest, also is obvious.

That the $12,000,000 block of the bonds to be offered late this month will not be sold, and that the year's state highway program will be delayed for nobody knows how seems very likely.

an unfortunate situation, the only remedy in sight apparently being that the state buy the bonds at par and sell them at a loss, estimated at $500,000.

Perhaps—even probably—that loss would be far less serious than the loss which looms if the construction program is stalled. It would simply be one way of meeting the market; of complying with the inevitable law of supply and demand, which refuses to be regulated by arbitrary legislation.

Why Fewer Deliveries on the Coast

PACIFIC COAST men who notice less readiness of manufacturers to make winter deliveries to them than heretofore are of course aware of shipping difficulties; but that is not the only reason. In the past, dealers in the Middle West and East have delayed ordering much longer than they do now, and a result is that this year they are receiving earlier deliveries. Probably much of this is due less to their foresight than to actual early demand, but the moral for Pacific Coast men is: Do likewise, henceforth.

It is noteworthy in this connection that the shows at Kansas City and Minneapolis were record-breakers. Sales for the week in Minneapolis exceeded $2,500,000.

Roses, Not Snow, Block the Roads

JANUARY was a terrible month in the Middle West and East, climatically. Blizzards raged. Snow blocked traffic. New York had the worst dressing down with sleet it had had since 1902. Most of Michigan was trying to dig its way out, or through, the frigid stuff. Any beer left in discontinued brewery storehouses in Milwaukee must have been permanently spoiled. Much human suffering everywhere. Compare it all with the recent earnest injunction of the California State Highway Commission, to the authorities of San Mateo County, that the blockading of the state highways in that section by peddlers of flowers simply had to be stopped.

Railways are Too Many Laps Behind

THE president of the Chicago & Northwestern is quoted as saying the railroads are at least four years behind on normal improvements; that it will take them that long to put the lines on an efficient basis. Other railroad men are said to believe it will take ten years, at a cost of a billion dollars per year, to build the roads up to the traffic demands of the country. Incidentally, they would like to have the people guarantee them 5½ per cent on their own valuations, which of course includes watered stock.

The country will not wait for anything that will need so much time to catch up with its pace. President G. A. Kissel, of the Kissel Motor Car Co., is quite safe in saying the motor truck will do what the railroads cannot do. The war brought some great benefits; this is one of them. It hastened the evolution of transportation methods.

Uniform Traffic Rules Would Swell Business

THERE is no doubt that simple, practicable traffic conditions would swell automobile sales. So every seller in the business should help toward the best conditions.

The Council of National Defense, in Washington, says it is receiving a myriad of communications, from every

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possible source, on this subject—some suggestions, but, in the main, appeals from folks who want "George" to do it.

The problem is not principally one of safety. The whole enormous scope of traffic is involved; every phase of commercial and other life. In fact, we do not believe it is a Council of National Defense affair at all.

The country does not want, and does not need, federal domination in the matter. What it needs is systematic, co-operative action by the people themselves.

Why not use the American Automobile Association as the means of concentrating all ideas on the subject of traffic congestion, including regulations? Let it formulate the most usable ones and obtain their adoption everywhere. Every dollar systematically invested by the trade in such an undertaking of the national association would not only help toward a boon greatly desired, but would bring back dollars by the ton.

"Action" Shows Would be Better

LIEUT.-COL. WALDEN, of Detroit, watched the disassembling and assembling of a Marmon. "Show that to the public," he suggested. It was done at New York. At Chicago, F. E. Moscovics, veteran observer, told Alfred Reeves and Samuel Miles every exhibitor should be urged to hereafter have a moving display of some sort. We hope they and everybody will bear it in mind.

Shakespeare said something about so-so being very well indeed, but yet but so-so. William was wise. When the limbs of the denizens of the forest, or of the stage, are in motion, they are much more interesting; and with more motion in their exhibits, automobile shows would be better for all the purposes for which they are held.

The advantage is that like creates like. A still day—nothing doing. Action—everybody acts with it.

Where a Slip May Lose a Life

PEOPLE involve a lot of bother and expense in getting themselves raised from childhood through the mature period, and more or less gently let down into second childhood. It seems a pity to waste all this effort in a moment, by some such little thing as the slipping brake on an automobile.

The law is that brakes shall be in good order. How about yours? You can tell when they have gone bad, but sometimes that is too late. When or if the law is enforced, if the prosecuting attorney finds you don't know what kind of brake lining you use, or in what distance you can stop without skidding, he is likely to rest his case and turn you over to the hard mercies of the jury.

The moral is: Find out. Your repair man is the doctor. He should inspect the lining regularly. It is a good investment.

A Word on Vocational Rehabilitation

PENSIONERS are paupers, if nothing else. Pensioning a disabled soldier tends to pauperize him and costs the givers much more than to make him self-sustaining. This country has appropriated aproximately $5,500,000,000 for pensions; in the year 1918-19 alone, $220,000,000, as against $16,000,000 for use under the vocational rehabilitation act of June 27, 1918.

Non-producers are useless. Pensions make non-producers. Rehabilitation—well, the year book of the twelfth district, embracing California, Arizona and Nevada contains the roster of the first thousand rehabilitated men, and the records of some of them. It is a splendid showing—a proof of the efficacy of co-operation, compared with giving of alms. The grand total average cost of getting them into suitable, gainful employment is stated to be $1259.20 per man.

Help yourself, the community, the country, by putting disabled warriors whom you meet, and who do not know enough to go themselves, in touch with the Federal Board for Vocational Education, Flood Building, San Francisco, or Merchants Trust Building, Los Angeles.

Is Motor Truck Selling Too Easy?

G. D. WILCOX, director of sales and publicity of the Commerce Motor Car Co., Detroit, says there are other reasons than salesmanship, for the rapidly increasing sale of motor trucks. He guesses, unquestionably correctly, that the chief reason is the operation of the little old law of demand and supply. He more than hints that real salesmanship is not the chief factor, and backs this up by stating that manufacturers receive many inquiries from prospective purchasers which say, "Do not send your representative's salesman to see us."

Of course, there is always the possible buyer who wants information and opportunity to ponder over it, without solicitous help from ambitious merchandisers; but it is well to bear in mind the hint. It is being said that too many salesmen have become stereotyped in their formulas. A stereotype is an inelastic thing; lacks resiliency; and its human prototype may be said to be paralyzed in his selling propensity. He is an inert mass; doesn't get anywhere unless pushed.

The easy days will not be with us always. Demand will increase, but sales will be by sellers. Eventually—why not now?

There is this extenuating circumstance: Mere commercialism is sordid; often dismal drudgery. A salesman, as a human being, is basically a lover of freedom. There are times when he feels like telling all and sundry, to whom he must kotow, where to go and exactly how to get there. This is going to be remedied to a large degree. The motor truck salesman of the future will have a knowledge of highway transportation and engineering that will give a zest to his work which it cannot have if dollar-chasing is the sole end instead of the pleasing incidental. State universities will have departments for this purpose.

Valuable Advice About Publicity

THAT was a very valuable talk, for every publicity man and every employer of publicity men, which was uttered by James L. Clark, manager of the service department of the National Bank of Commerce, New York City.

It only applied to banks in a very general way. It was particularly applicable to automobile publicity. In a word, the advice was, "It must be based on news value; should be built from the viewpoint of the papers rather than of the corporations from which it comes."

No sounder advice ever was given. When it is heeded; when the tired publicity man rises from his desk and goes out and gets the actual atmosphere of the thing to be written about into his system, far fewer newspaper men and far fewer newspaper readers will exclaim: "Slush!"

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THE easiest and quickest way to repair leaks in radiators, pumps, hose connections, etc., is with Johnson's Radiator Cement. It will stop leaks immediately without laying up the car—no mechanical experience required—all you have to do is remove the cap and pour the Radiator Cement in the radiator.

JOHNSON'S RADIATOR CEMENT

Contains nothing which can clog or coat the cooling system and is absolutely harmless in every respect. It blends perfectly with the water until it reaches the leaks. Just as soon as it comes in contact with the air it forms a hard, tough, pressure-resisting substance which is insoluble in water and consequently makes a permanent seal. No tool kit complete without a can of Johnson's Radiator Cement. Will ordinarily seal leaks in two to ten minutes. A half-pint is sufficient for the average car.

JOHNSON'S
CARBON REMOVER

A dose of Johnson's Carbon Remover, the engine laxative, will cure 80% of engine troubles. It will increase the power of your car—improve acceleration—stop that knock—quiet your motor—save your batteries—cut down your repair bills—and lessen your gas and oil consumption.

JOHNSON'S
HASTEE PATCH

This is the ideal repair for tubes, casings and rubber goods of all kinds. No time, labor or heat required. A patch can be applied in three minutes and it's so simple a child can use it. Gives equally good results on a pin hole puncture or on a large blowout. Conveniently put up in strips.

JOHNSON'S
BLACK-LAC

With this preparation you can make your gray, dusty top and side curtains look like new. Fine for mohair, leather or imitation leather. Johnson's Black-Lac is unequalled for blackening fenders, rims, hoods, lamps—and, in fact, all worn metal parts. Prevents rust and keeps your car in a high state of repair.

Booklet on "Keeping Young"—it's free.

S. C. JOHNSON & SON, Dept. M. W. 2, Racine, Wisconsin

For sale by all Hardware and Accessory Dealers and Garages

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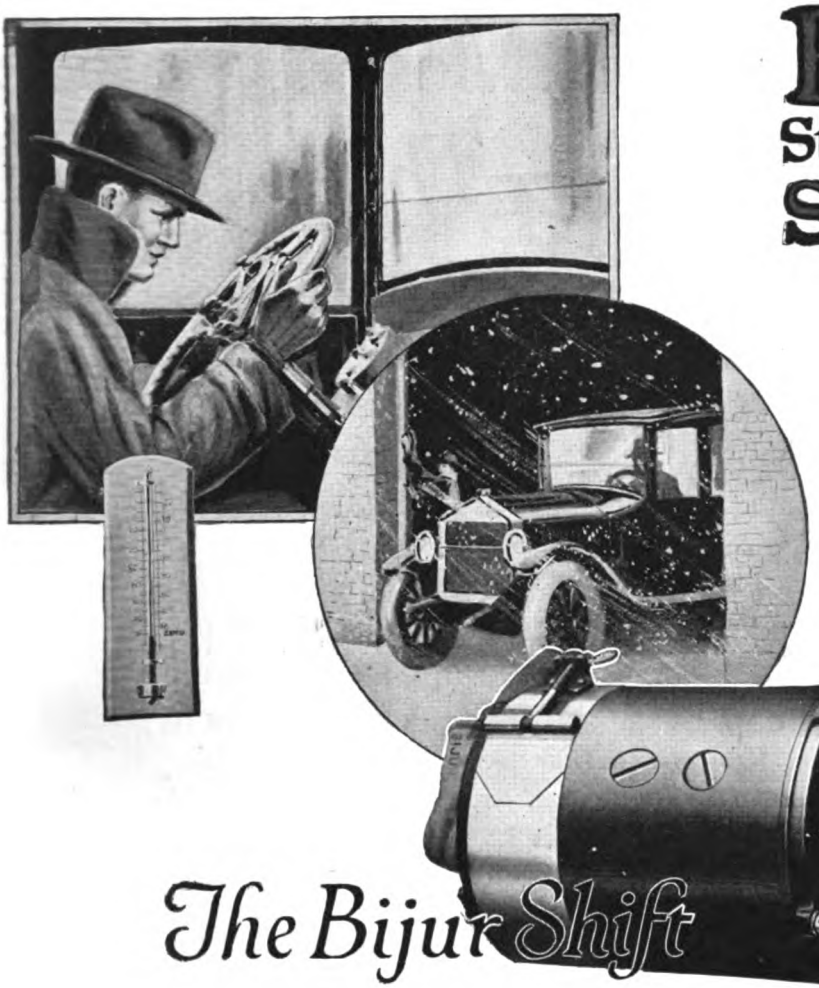
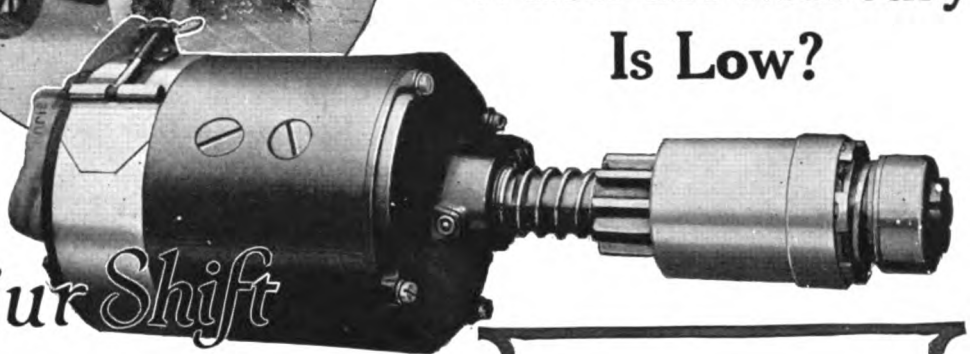
Bijur Starting & Lighting Systems



Will It Start When the Mercury Is Low?



The Bijur Shift

In cold weather when the engine is stiff and the battery is low a starting system receives its supreme test. In designing the Bijur Shift the Bijur Engineers always worked with "zero weather" in mind. Made to perform to its full efficiency under frigid motor conditions, the Bijur remains the "ideal" starter in all climes and in all seasons.

The higher cranking speed of the engine in warm weather is merely incidental to accomplishing the end sought—a starter that would instantly respond to the coldest day of the year.

Just run over the many feature-points of the Bijur Shift outlined in panel and you will see why Bijur Systems are standard equipment on many of the world's leading cars, trucks, motor boats, airplanes and dirigibles.

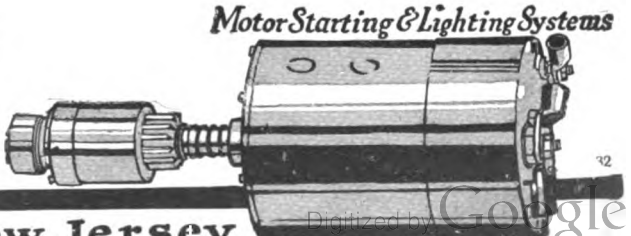
The more severe the service and the more exacting the requirements the more there is for Bijur systems, both starting and lighting.

Why the Bijur Shift Excels

- Automatic Engagement
- Positive Engagement
- Small Motor Pinion
- Backfires Harmless
- No Pinion Jamming
- No Driving Spring
- Fully Enclosed
- Not Disabled by Oiling
- Shockless
- Noiseless
- Light Weight
- Current Economy
- Cold Weather Ability
- Harmless to Press Starting Switch with Engine Running
- No Intermittent Ticking of Pinions Against Flywheel
- Found only on Bijur Starting Systems

Bijur Motor Appliance Company

Motor Starting & Lighting Systems



New Jersey

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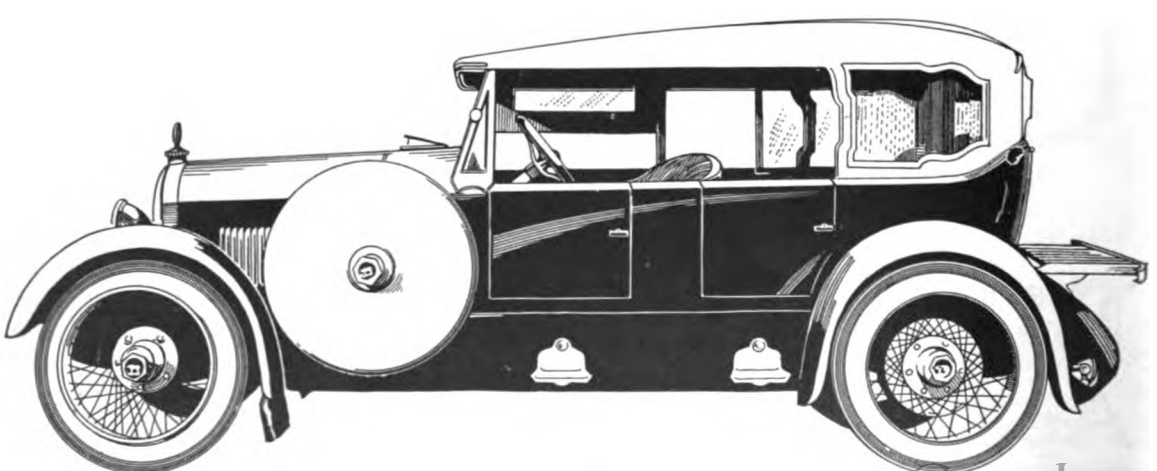
California Presents the Most Complete Motor Car Built Today—*The LEACH*

EVERY desire of the exacting motorist has been anticipated in the Leach—it embodies all those features that identify the owner as one having individual taste and good judgment.

But all of the "Leach" goodness is not on the surface alone—under the paint and trimming is a motor car that acknowledges no superior in design, quality of materials and workmanship.

No other motor car built has a stronger frame, sturdier axles, more efficient power plant or more dependable ignition system or transmission, and upon this foundation there is mounted the finest custom-built body ever turned out, with a De Luxe Top and Leach patented sliding glass windows and clear vision windshield.

It offers the most complete car built today—and the greatest intrinsic value for the price.



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To the Dealer It Offers a Business Opportunity Because it is Designed to Please the Owner

NO manufacturing or marketing limitations handicapped the designing of the Leach. The car was conceived and built first upon the oft repeated requests and demands of the motoring public—

After the car was perfected a factory was built and skilled men trained to produce the car as it should be—not as mechanical factors would have it.

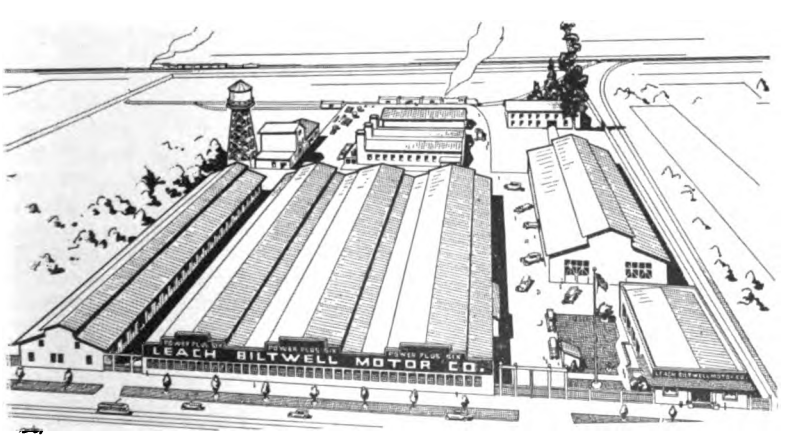
That is why distributors from every part of the United States have eagerly sought the Leach franchise for their territory—because they know what kind of a car will please their customers—the ultimate owners.

Production is now under way and deliveries can be assured—but our output is limited only to the quantity that we can produce on the basis of quality. If you are interested as a dealer or as an owner we advise an early request for detailed information.

LEACH BILTWELL MOTOR COMPANY

Factory—General Offices: 4800 SANTA FE AVENUE : LOS ANGELES

RETAIL SALES DEPARTMENT—SERVICE DEPARTMENT: 1035 SOUTH GRAND AVENUE



Three hundred skilled mechanics, working in our big ideal plant covering twelve acres, are producing the Leach, the most complete motor car built today.

An invitation is extended you to visit our factory and see for yourself how "honestly" the Leach is built.

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The Leach Power-Plus Six

Details of First Distinctively Western Automobile Which Ever Invaded an Eastern National Show

"East is East, and West is West,
And ne'er the twain shall meet."

EAST met West at the Chicago national automobile show. It found that West was West, most distinctively, in the display of the Leach Power-Plus Six, and it gave the newcomer a right hearty reception.

It was the first time that the West had rustled up nerve enough to invade the East with a Western-made automobile. What the Leach car did at the show is not exactly the story it is purposed to relate here, except to say that the Leach-Biltwell Motor Co., of Los Angeles, its manufacturer states it garnered at the show upwards of $2,000,000 in contracts for 1920 delivery. M. A. Leach, creator of the car, is correspondingly jubilant.

Those acquainted with what the Leach-Biltwell Motor Co. has accomplished in the span of a few months declare that the happy result in Chicago could not well have been otherwise. The car exhibited there was completed in what was referred to only a few weeks ago as the only automobile manufacturing plant on the Pacific Coast, but which now is proudly described as one of the most scientifically perfect factories of its kind in the entire country.

In a plant covering 180,000 square feet of floor space, in a 12 acre tract, is a most interesting industrial sight. Here the buyer of a Leach Power-Plus Six can see in rough lumber, in cast and forged metal, in fabric, rubber, glass, leather, and in a thousand and one other items, his car in the making. He could, if he had the time, start in one door with arriving material and follow it through the plant, emerging at another door with the completed car, ready to drive home.

All who visit the large factory are impressed with the convenient arrangements, the light and air that flood the place, and the evidences of perfectly functioning departments; as with the quality of materials and the expert workmanship. The development of the car, from materials to finished product, is a revelation. Parts are made, and as they are assembled the chassis takes form; motor, axles, gas tank, wheels and fenders take their places; and by the time the body is ready for installation the machine has been given its road test, first over pavements and then in some rough going. Then the de luxe tops, a distinctive feature of the Leach, are put on in the same custom-built manner in which the bodies are constructed. One sees the insertion of the unique plate glass windows, how the patented disappearing flexible curtains operate, and how lining and covering are applied to the top. Everywhere the utmost attention is given to details.

The plant is at 4800 Santa Fe Ave., within rifle shot of the mammoth Goodyear plant being erected. The company's own spur track connects with the Santa Fe railroad, close by. The plant includes two large dry kilns for seasoning the wood used for bodies and top. Other buildings include one for materials, administration headquarters and general offices, and a private water works.

The schedule calls for production of 1,000 cars in 1920. It is claimed no other car provides so many quality features, and the detailed description seems to support the assertion.

The Leach is an open touring model and a closed car in one—minus weight, and with a strong squeak and rattle proof frame, body and top. It is custom built throughout.

The de luxe top is equipped with sliding plate glass windows and clear vision curtains that operate easily and quickly and are carried out of sight when not in use.

The graceful lines of the custom built body are enhanced by the beauty and quality of the paint work, which though dark blue is standard—can be secured in any shade or color to suit individual fancy.

Especial attention has been given to the design and arrangement of the upholstery. The deep springs fit the body perfectly and a person of largest size will find utmost comfort in either the front or tonneau seats. Four passengers can ride comfortably, and five can be easily carried.

Individual aluminum steps, illuminated automatically, take the place of a running board. A patented combination bumper and trunk rack at the rear serves its double purpose perfectly, as does a bumper at the front.

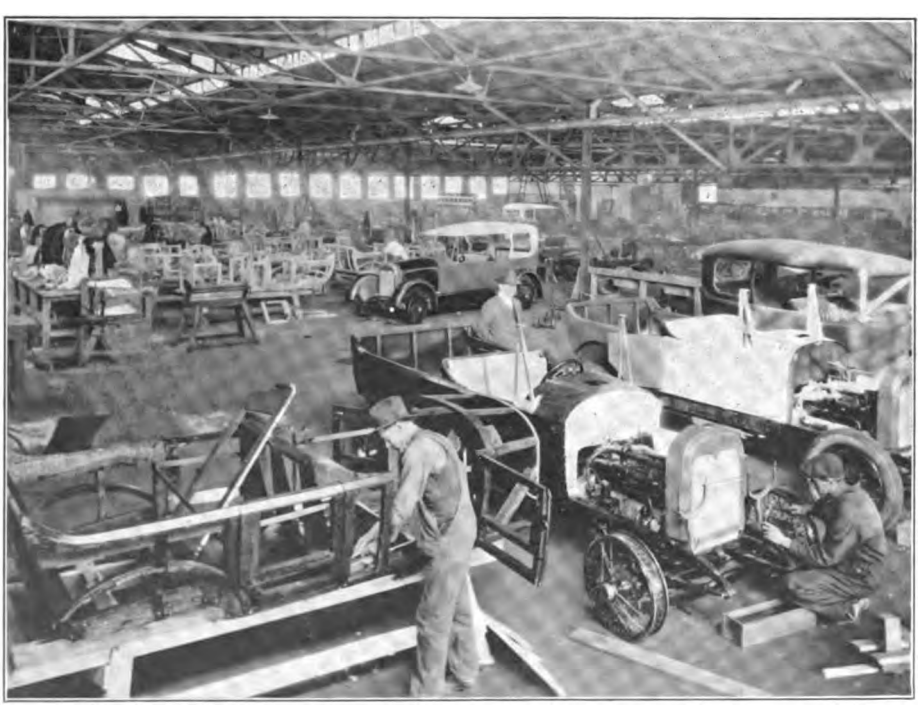
Hand-made bicycle type fenders cover each of the four wheels, a motometer is provided, and a tool box with a complete kit is accessible from without the car. Two trouble lamps are mounted on the forward side of the dash, under the hood, for emergency use. The hood is made in two parts, each side being quickly detached and removed by one person. The spare tire and wheel with tire cover is carried on a rigid support at the side. Five wire wheels and 32x4½ Goodyear cord tires are regular equipment.

A one-piece patent type windshield and frame eliminates the unsightly rubber strip—keeps out rain, wind and dust and makes wind deflectors unnecessary. Ventilation is by a vent in the cowl, controlled from the dash.

The oval Waltham combination speedometer and clock with radiolite dial is said to be the finest and most accurate instrument of its kind ever produced and is to be found only on a few of America's highest priced cars.

A trouble lamp with 17 feet of cord is mounted on the well-arranged dash, illuminating the ammeter and oil pressure gauge. A cigar lighter, with sufficient cord to extend to the tonneau, is provided. A gauge that records the contents of the gasoline tank is another important and convenient feature found on the dash.

The steering wheel is collapsible and tilts either up or down, and by inserting a small Yale key it can be released from the steering column, making the car thief-proof.



A SECTION OF THE BODY-BUILDING DEPARTMENT, SHOWING THE STURDY CONSTRUCTION OF THIS PART OF THE LEACH CAR.

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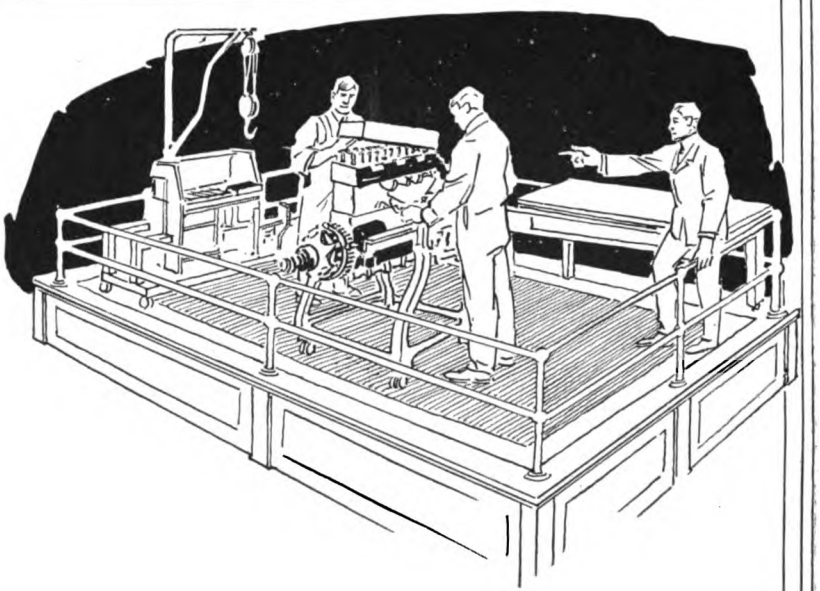
Three performances daily, at the Marmon booth, at 1, at 4 and at 8:30 p. m.



See This Graphic Portrayal of the

Lessons *of the* Great War

FOR the Pacific Auto Show, the Al. G. Faulkner Company has secured the great Marmon display from the National Automobile Shows at New York and Chicago. It reveals in vivid fashion the new construction methods developed through the building of aircraft motors during the war.

In this exhibit, two mechanics will completely tear down and reassemble a Marmon High Efficiency motor in one hour and fifteen minutes.

It is a marvellous demonstration of the great accuracy attained in the manufacture of every part of the Marmon motor. Hand-fitting has been made a thing of the past.

If you visit the Pacific Automobile Show do not miss this interesting and educational demonstration of Marmon's wonderful mechanical achievement.

Pennant Awarded to Nordyke & Marmon Company, November 1, 1918, by United States Government Bureau of Aircraft Production for October Competition. Permanently Awarded November 16, 1918.

MARMON 34

AL. G. FAULKNER COMPANY
DISTRIBUTOR

1635 South Figueroa St. LOS ANGELES

MARMON MOTOR CARS
California, Nevada, Hawaiian Islands

1656—1666 California St. SAN FRANCISCO

NORDYKE & MARMON CO., Established 1851 Indianapolis

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MISS MARCELLA DESMOND, ONE OF THE FORTUNATE OWNERS OF A LEACH POWER-PLUS SIX—A LOS ANGELES-BUILT MOTOR CAR.

At the left, attached to the steering column, there is the manual control for the electric rear signal that flashes a semaphore telling the car behind you exactly what you are going to do—and complies with the law in all states requiring such a device.

Two locker compartments are provided for coats, robes and packages in the back of the front seat—also a flexible robe rail.

The mechanically inclined will find delight in the big, powerful, yet economical Leach Continental Red Seal motor with Rayfield automatic carburetor and improved two-unit Delco electric system.

The transmission and disc clutch are of Brown-Lipe make—claimed to be the very finest unit yet constructed. Spicer universals are used and Stan-Bar axles of ¾ floating type carry the load. Big, strong brakes, 16x2 inches in size, are an assurance of utmost safety. Long, flat, Vanadium steel springs make for easy riding. The frame is the strongest possible. It is of special Leach design, constructed of 8 inch channels with hot riveted cross members, gussets and supports. The radiator is unusually large and well proportioned with a 4 inch core which provides ample cooling for the motor under the most severe hot weather conditions. It is supported on special Leach mountings that protect it from all twisting and road stocks, giving it much longer life.

The wheel base is 126½ inches and the gauge is standard 56 inch. The unusually short turning radius is secured by means of a tapered frame and special construction of the fore and aft tie rod of the steering gear. Also through careful alignment and design the steering has been made so simple and easy that the car can be driven for long periods over the most serious road conditions without tiring the driver. The steering gear is of the nut and screw type, with adjustments three ways to take up all wear.

Oldfield's Life Story Free

In 1902 Barney Oldfield drove two racing automobiles, built from Henry Ford's designs and financed by Tom Cooper, celebrated bicycle racing man. A picture of Barney sitting in Ford "999," with Ford, the eager mechanic, alongside; and other most interesting pictures, facts, largely from Oldfield's old scrapbooks and compiled by Paul Hale Bruske—these all are in a book, well worth anyone's while to get, especially without cost, from Oldfield tire dealers or from the Oldfield Tire Co., Cleveland, O.

Facts on Fuel Supply

The Maibohm Motors Co.'s investigation yields some interesting high spots on the fuel situation. The belief that the supply will "run out" is laughed at. Oil wells are not the only source. During the war, when unable to get gasoline, the Canadians distilled wheat straw. The Greeks ran motors on a distillation from trees. Turks moved their lorries on mustard oil. The Germans used a gasoline substitute of unknown composition but which had a sickly, sweetish odor.

As to oil, the wells in Rumania, which are among the oldest and greatest, show no signs of exhaustion. There are wells in the Caucasus which have given healthy yields for hundreds of years. The Panuco wells in the Tampico district, Mexico, apparently are inexhaustible. Important new wells have been discovered in Canada, Alaska and Siberia. The Government is holding enormous deposits of shale in Wyoming and other Western states.

Benzol opens up a big source of supply. It is cheap and is—or was—easily obtainable. Benzol has too much kick, but scientists are working on it.

Geologists explain oil thus: Umpty-ump years ago, semi-vegetable organisms, mushroom-shaped, growing on ocean bottoms, were covered by volcanic products, decomposed, oil and gas was formed, and broke through the top as the earth's surface cracked with age. New oil beds are forming constantly. No need to worry.

Two New Hayne Closed Cars

Two new models, closed type, and different from anything produced by the Haynes Automobile Co., Kokomo, Ind., are the 5-passenger Brougham and 7-passenger Suburban. The former is usable alike for transporting debutantes or business and professional men, with whom class counts. The Suburban is a unique combination of single and double compartment closed car, appropriate for driving either by one's chauffeur or oneself. By a small crank regulator one raises a glass partition, separating the two compartments.

The Haynes 1920 program includes continuance of 6 and 12-cylinder types of chassis, both having stood the test of time. The company's output capacity has been increased to 15,000 cars annually, by completion of its new factory and drop-forge plant.

"Automobile Ignition"

The object of the whole automobile ignition system is simply the production of a small spark about 1/50 inch in length in the engine cylinder, but the parts required for causing this spark are the most intricate and interesting of all the units that make up the modern automobile. "Automobile Ignition," by Harold P. Manly, well-known writer on automotive subjects, is published to remedy the common fault of many automobile electrical works to treat ignition as of secondary importance.

The 439 pages of this work are therefore devoted to automobile ignition in all its modern-day phases, explained clearly and concisely, aided by 180 diagrams. Published by Frederick J. Drake & Co., of Chicago, Ill.

JOIN THE SHIP-BY-TRUCK MOVEMENT.

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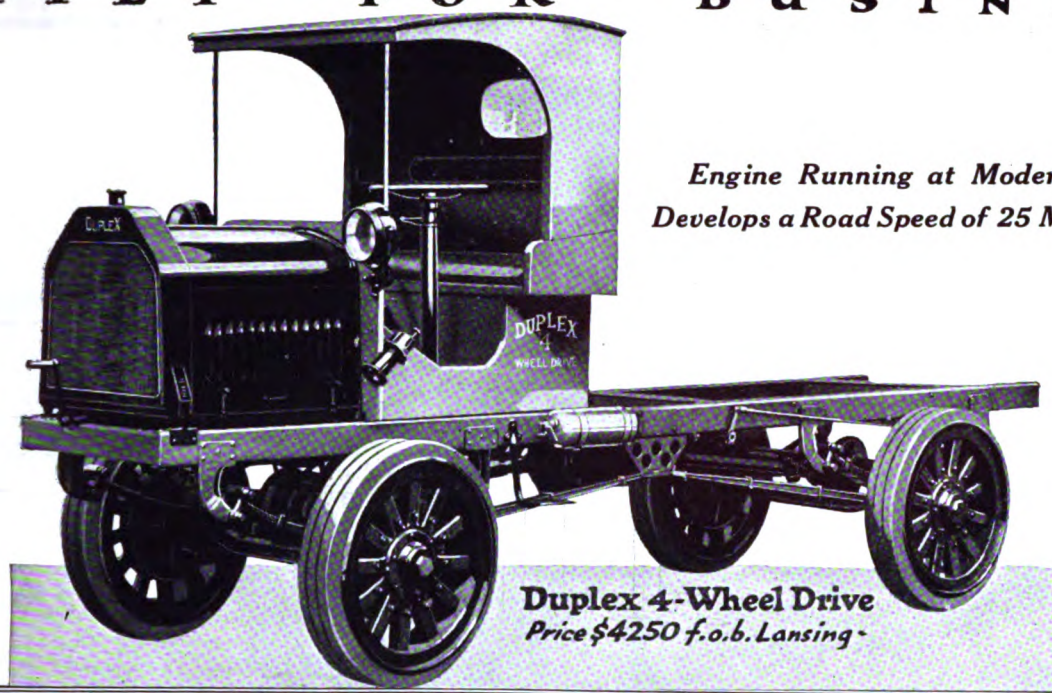
DUPLEX TRUCKS

BUILT FOR BUSINESS



Engine Running at Moderate Speed
Develops a Road Speed of 25 Miles per hour

Duplex 4-Wheel Drive
Price $4250 f.o.b. Lansing

Wherever There is Heavy Hauling to be Done There is a Ready Market for the Duplex 4-Wheel Drive Truck

THE great increase in the use of motor trucks—the larger hauls, the heavier loads—all these combine to provide a steadily increasing market for the famous, heavy duty 4-Wheel Drive Duplex.

Many a truck owner today is trying to get his money's worth of use out of a truck that isn't designed to do the work he has to do—trying to make an ordinary truck do the work that only a Duplex 4-Wheel Drive can do. Naturally his costs are too high; his depreciation too great.

Get the facts about Duplex 4-Wheel Drive Economy and Reliability before your prospects.

The facts are there, of course, and they are all in your favor but the **truck owner needs to have them made plain to him.**

The demand for Duplex 4-Wheel Drive Trucks was never so great as this year. Get your share of the business—and start getting it now.

Duplex 4-Wheel Drive Truck
Price $4250, *f. o. b. Lansing*

DUPLEX
BUILT
FOR BUSINESS

The Duplex *Limited*

Opens Wider Selling Fields for All Duplex Dealers

MANY Duplex dealers are already feeling the impetus of increasing demand, since the Duplex Limited came on the market.

Here is a truck for **general business purposes.** Medium Capacity, Pneumatic Tired, Complete Electrical Equipment, **High Speed,** and backed by the prestige of the famous Heavy Duty Duplex 4-Wheel Drive. The addition of the Limited puts Duplex dealers in a position to fill the needs of 75% of the truck market.

Duplex performance, Duplex reliability and Duplex economy are well known among truck buyers—and for some time we have been feeling the pressure of demand for a **High Speed** Duplex from men in all lines of business.

The Limited is destined for conspicuous success. Its price, $2575 f. o. b. Lansing is low enough to insure a great growing market and the prestige of the name Duplex leads careful buyers everywhere to accept the Limited immediately as one of the most successful medium capacity, high-speed trucks now on the market.

Truck value—real value—is what the truck buyer is seeking—and the facts about Duplex Reliability, Duplex Performance and Duplex Economy are becoming more and more the **buying standards** of the critical truck buyers of today.

Remember the Duplex Limited is a Duplex through and through—designed and built in response to a present demand and to fill a gap that is getting bigger every year.

The Duplex business is growing faster and faster and your individual business can grow with it. The business for Duplex Trucks is there in your territory and you can get it.

The Limited is a success now—and the field is big. Get your share of the business and start **now.**

Duplex Limited—Medium Capacity—Two-Wheel Drive High Speed $2575 f. o. b. Lansing

Duplex Truck Company

Lansing · Michigan

One of the Oldest and Most Successful Truck Companies in America

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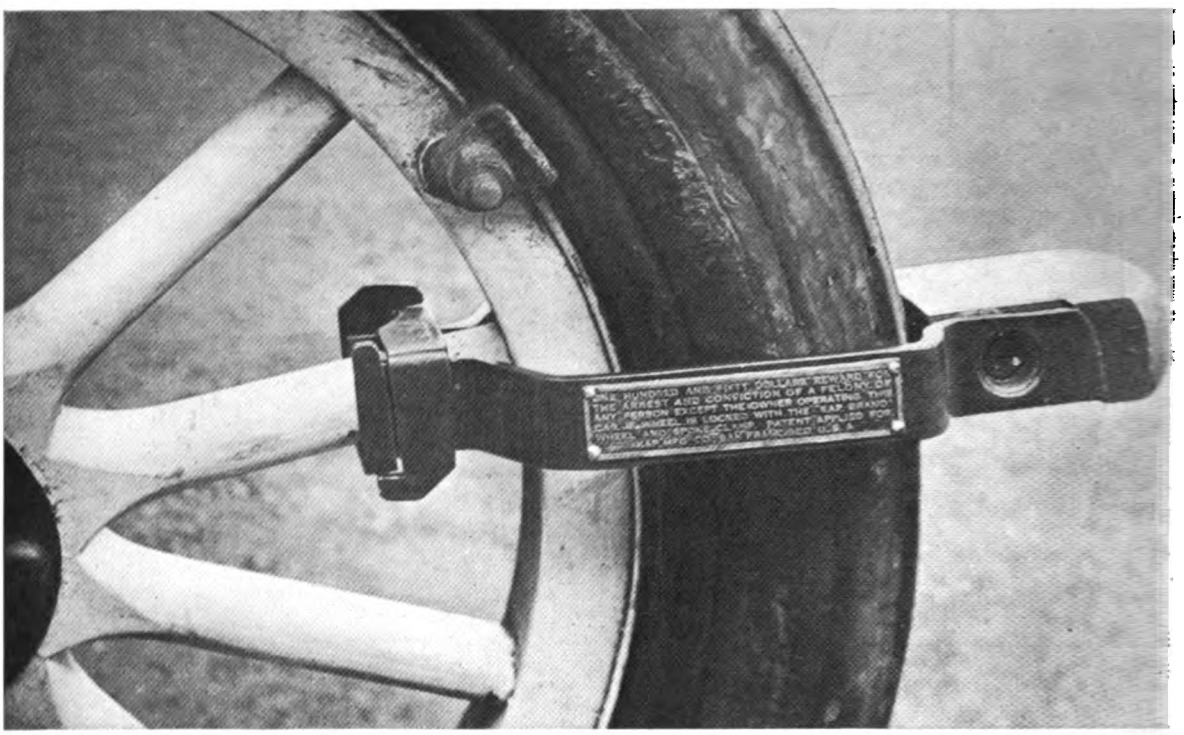
The "Giant Wheel and Spoke Lock"



IT INTERLOCKS THE SPOKE

Cannot be Manipulated or Turned by Deflating the Tire

A PERFECT MECHANICAL AUTOMATIC LOCKING DEVICE
ORANGE COLOR ENAMELED—DISTINCTIVE—CONSPICUOUS. MADE IN THREE SIZES ONLY, REGARDLESS OF KIND OF TIRE

For Fords, deflated or demountable, Chevrolet and cars of similar type tires, price $6.00
3½ oversize to 4 inches, price 7.00
4½ oversize to 5 inch oversize, price 8.00

Nickel Plated, One Dollar Extra

EVERY LOCK FULLY GUARANTEED

MADE ONLY BY THE

KAP MANUFACTURING CO.

SAN FRANCISCO

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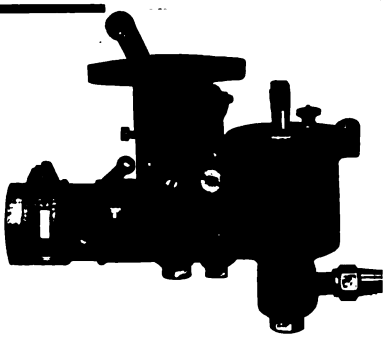


—of unusual interest

Mr. Car Owner:—

You are very cordially invited to visit the Zenith Carburetor Booth at the Automobile Show.

An illustrated lecture on Carburetion will be given gratis which will be of unusual interest and educational value.

In addition to a complete display of all models of Auto, Truck, Tractor, Aeroplane and Motor Boat Carburetors.

See the

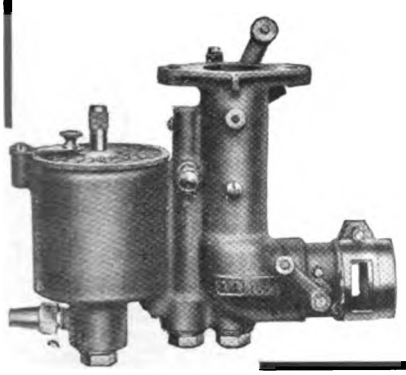
ZENITH CARBURETOR EXHIBIT

AT THE

AUTO SHOW

(ACCESSORY SECTION)

Zenith's Add Performance To Any Motor



Lathan Auto Supply Co.

Pacific Coast Distributors

SAN FRANCISCO, CAL.

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THE SIGN

OF SERVICE

Ahlberg Reground Bearings are Different

In the Automotive Field there are certain products which stand out far above all others. Ahlberg Ground Bearings and Service are one of them.

There is no other Service Organization or Bearing Re-grinder qualified either by experience or equipment to equal our service.

No matter where you are, you are within twenty-four hours of an Ahlberg Station. No matter what you want—whether it be new or Ahlberg Ground Bearings, you can have them within twenty-four hours.

Ahlberg Bearing Company

316-327 E. 29th St. Chicago, Ill.

BRANCHES:

Atlanta, Ga.	Philadelphia, Pa.
Boston, Mass.	Portland, Ore.
Brooklyn, N. Y.	Pittsburgh, Pa.
Cleveland, O.	Omaha, Neb.
Detroit, Mich.	Providence, R. I.
Kansas City, Mo.	San Francisco, Cal.
Los Angeles, Cal.	St. Louis, Mo.
Minneapolis, Minn.	Memphis, Tenn.
New York, N. Y.	Cincinnati, O.
New Orleans	

Standard
DETROIT USA

SHIP BY TRUCK AND VOTE FOR GOOD ROADS

STANDARD SECURITY

WHAT STANDARD Motor Trucks have done during the Ten Years of Motor Truck History—we consider to be nothing Remarkable.

Motor Trucks can Produce no more than the STAMINA Built in them. Thus STANDARD Performance is just as Sure, and STANDARD STAMINA is just as Certain as Men, Money and Materials can make them.

Several Hundred Motor Truck Owners in Detroit alone have backed STANDARD STAMINA with an Investment of more than 1½ Million Dollars.

This Quiet, Steady Growth of the Standard Motor Truck Company during the past Decade—is *your* Guaranty that STANDARD STAMINA Endures.

Dealers Write for Territory

STANDARD MOTOR TRUCK CO.

Detroit, Mich.

1, 2½, 3½ and 5 Ton Capacities

"All the name implies"

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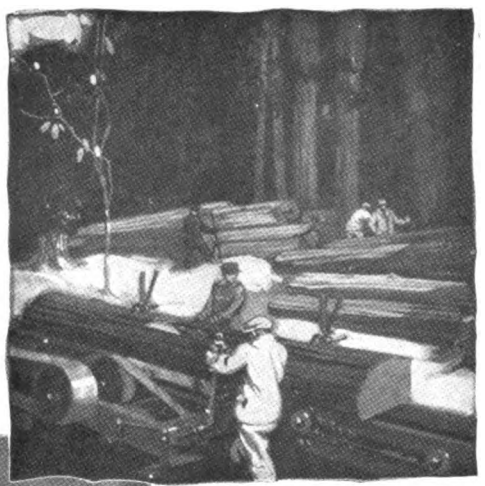

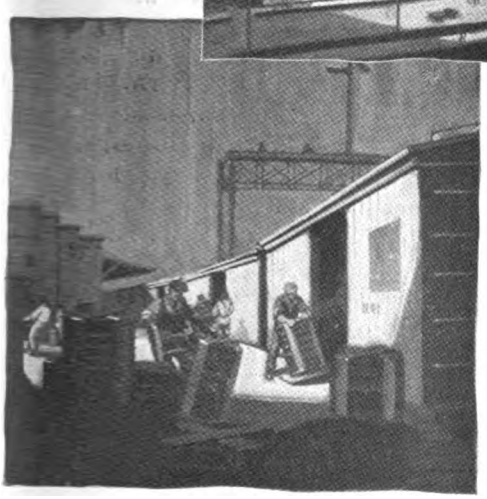

IT is the policy of the Hayes Wheel Company to build automotive wheels in large quantities, and sell them in carload lots to a few selected customers.

The large-quantity production makes possible a low manufacturing cost. The price to a customer is based upon the cost, with a legitimate percentage added for profit.

Both the cost and the profit are disclosed to the customer, that he may appraise with accuracy the true nature of the business relationship.

As a result of this policy, the customer's good will is vested in the Hayes Wheel Company; and its growth, prestige and financial soundness are explained.

HAYES Wheel Company

Jackson, Michigan

Branches at Albion, Mich. and Anderson, Ind.

Hayes Motor Truck Wheel Co., St. Johns, Mich.

Hayes Wheel Co. Ltd., of Canada, Chatham, Ont. and Windsor, Ont.

World's Largest Builders of Wheels—Wire :: Wood :: Steel

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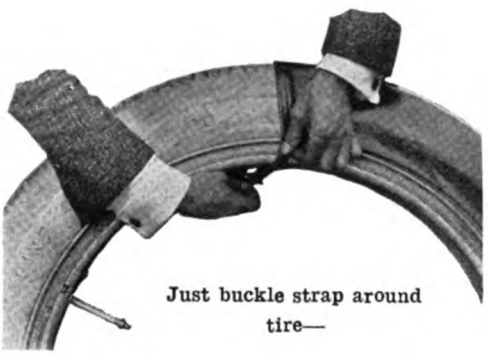
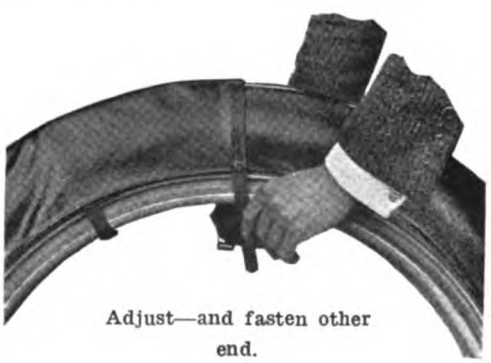
On in a jiffy



Just buckle strap around tire—

Isn't that easy?

—And Economy Tire Covers are just as easy to sell as they are to put on a tire. They just slip off your shelf and onto your customers' tires—leaving behind a trail of easily earned profits. Ask for complete information on Economy Tire Covers, and let these profits slip into your pocket.



Adjust—and fasten other end.

Economy Tire Cover Co.

1319 Margo St. Los Angeles

Portland's 11th Annual

Show During Same Week as San Francisco Event Will Mark Entry of Closed Models Into Northwest

DURING the same week that the fourth annual Pacific Coast Automobile Show is held in San Francisco, dealers of Portland will be holding their eleventh annual automobile show and, coincidentally therewith, their first show devoted exclusively to trucks. The Portland shows will be as big in their field as is the San Francisco show in its larger field.

The decision of the Portland truck dealers to hold a truck show separately from the passenger automobile show, though during the same week and under the same management, was a matter of necessity. It was either that or no show at all, for so many passenger automobiles now are represented in the Oregon territory that there is no available building now large enough for a combined passenger car and truck show.

So the automobile show will be held in the Ice Palace, which, incidentally, has more space on its single floor than on any single floor of the Chicago Coliseum, and the truck show will be held within a few blocks in the Multnomah County Armory. One ticket admits to both shows. In connection with the truck show there also will be held an accessory show.

In the automobile show at the Ice Palace there will be represented 69 different makes of cars, and 176 different models will be on display. For the first time ever in the Pacific Northwest, enclosed cars will be an especial feature of the show. Of the 176 models, at least one-third, and quite possibly almost one-half, will be enclosed models. The Pacific Northwest motorist at last has awakened to the advantages of the enclosed car, and from now on Oregon will run any other section of the country a good race in proportion of enclosed car sales. Up to the past couple of years enclosed cars were a drug on the market.

The Ice Palace is 360 by 130 feet in size, and after deducting all necessary space for aisles, 36,000 square feet of space is available for show purposes. There is not a post in the building.

The passenger show will be held under the auspices of the Portland Automobile Trades Association. A committee composed of H. H. Eling, A. S. Robinson, H. W. Covey, A. B. Manley and M. O. Wilkins will manage both the passenger car show and the truck show. They will be assisted in handling the latter by a committee of truck men consisting of Del Wright, F. M. Leeston-Smith and F. H. Nash.

Approximately 40 different makes of trucks will be in the truck show, with about 100 different models.

These shows will be much more than of local importance. They are Pacific Northwest events, and big delegations of passenger car and truck dealers will come to Portland in show week from Seattle, Tacoma, Spokane, Wash., Boise, Idaho, and from many smaller towns of Oregon, Washington and Idaho.

One feature of show week will be a high jinks entertainment, set for Thursday night, in honor of the visiting dealers.

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FYRAC

SPARK PLUGS

Plain to see and plain in their assurance of service extraordinary and enduring, Fyrac's *one inch firing surface*, its stout wires that absorb the leaping fire along their *full* length instead of at one point, its heat-tested, air-tested, practically unbreakable insulator—reveal themselves at the customer's first glance.

So the plug sells itself.

Intensive National advertising supports Fyrac dealers.

FYRAC MANUFACTURING CO., *Rockford, Ill.*

Export Department, Werner & Butts, 336 Whitehall Building, New York, U. S. A.
Canadian Department, Campbell Agencies, 350 McKinnon Building, Toronto, Canada

Durable

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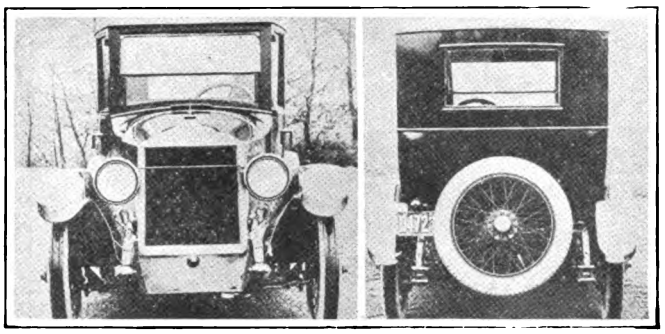


LOOKING AT NEW MOON SEDAN FROM FRONT AND REAR.

The direct front view of the Moon 6-48 1920 Sedan shows the harmony of the square type body with the beveled hood and square type radiator. Note the heavy fenders, cord tires, Warner lenses, etc. The rear still further accentuates the square effect, and shows the large glass window and the method of supporting the spare wire wheel. This model has the new 7R Continental motor, Timken axles, Borg & Beck clutch, Spicer joints and Delco ignition, starting and lighting that feature the 1920 Moon line.

Goodyear Heads Make Predictions

That solid tires for motor trucks will be obsolete within three years, that street cars will soon be replaced by motor busses, and that freight cars will be given close competition by motor trucks on long hauls, were the predictions made by F. A. Seiberling, president of the Goodyear Tire & Rubber Co., and P. W. Litchfield, factory manager, at a banquet given the Detroit and Cleveland sections of the Society of Automotive Engineers in Akron recently.

More than 200 of the foremost designers heard Mr. Seiberling's prophecy that within the lifetime of those present, the United States would be criss-crossed by great highways of solid foundation to withstand any wear and that highways of less than 16 feet width would be unknown.

Mr. Litchfield declared that the trolley must go, stating that it has reached a point where it cannot compete with the motor bus. For financial reasons extensions are impossible, so the street car must give way to the gas-driven vehicle that can aid development of suburbs without heavy investment in franchises and equipment.

Increase in traffic has sounded the death knell of the trolley, according to Mr. Litchfield. Streets cannot easily be widened to give more track-room, and continuous traffic movement is imperative. Therefore the whole street service must be utilized by a carrier that can go to the curb to take on or discharge passengers, and the trolley must go underground if it remains in existence.

The Goodyear factory manager pointed out the immobility of freight cars and delays necessitated in waiting to make up trains for given destinations. In contradistinction he indicated the mobility of the motor truck and predicted that, with permanent highways and cord tire equipment, the motor truck will replace the freight car on long hauls.

Mr. Litchfield asserted that the world war had put Europe 50 years ahead in transportation and, with this future for the industry in mind, asked the visiting engineers to design large capacity carriers to replace the street car and prophesied a multiple-wheeled truck would give competition to the railroads on long hauls.

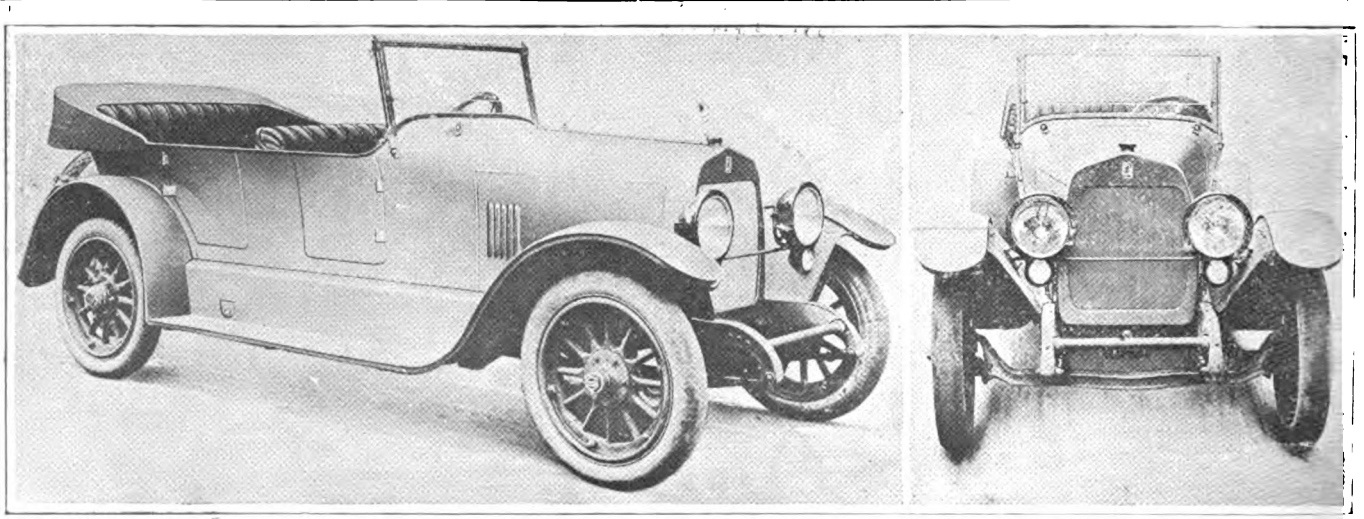
European Methods Not Adapted to Quantity Production

European manufacturers of automobiles will never reach quantity production with products of their own designing, according to Benjamin Briscoe, of Briscoe & Stahl, who recently returned from Paris with many important commissions for European makers. Mr. Briscoe says that design of European cars is not based upon large production and that the manufacturers of that country know little of the first principles of putting out cars on the basis that is followed in America.

European workmen are not men trained to that sort of thing, and intermingling of the workmen of Europe and Americans is difficult and not advisable. Were it possible to place European-designed cars in quantity production, the only feasible thing to do, in the opinion of Briscoe & Stahl, would be to start a working force with comparatively green hands and with American foremen, and then train the men of Europe to American ways. Old hands of Europe's factories cannot be speeded up in American style. The chances for the car designed by Briscoe & Stahl and to be assembled of American parts in the great Paris factory are bright, for quantity production with the car is possible.

Cameron to Re-Enter Racing Arena

Harry Doherty, general sales manager of the Cameron Motors Corp., Shelton, Conn., and New York City, announces the intention of his company to make entry for the Indianapolis 500-mile race of May 30, 1920. Either two or three cars will be entered. The Cameron stock model complies with the new rulings regarding cylinder displacement in that it is just 183 cubic inches. To latecomers in the field of the motor car the Cameron announcement is of but passing interest, but to old-timers who witnessed famous events of the early days it is news of a pleasing nature, for E. S. Cameron and his associates were contenders in events from 1904 to 1912, inclusive, and successful in a remarkable degree.



NEW DU PONT OFFERING IS IN $4,000 CLASS.

The new Du Pont car, manufactured by the Du Pont Motor Mfg. Corp., of Wilmington, Delaware, will be on quantity production by May 1, 1920. The car has a wheelbase of 124 inches and will sell at around $4,000. The engine is four-cylinder, L-head, and of Du Pont make.

All specifications of the new Du Pont have not yet been settled, but magneto ignition wil be used, a single steel clutch, full force feed lubrication, two-unit starting system and thermo-syphon cooling.

The manufacturers are a subsidiary of the well known Du Pont powder and allied interests. The Du Pont car, as illustrated, made its first appearance recently at the New York Motor Car Salon.

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Hewitt service is built in

If you are to get real service out of your tires—it must be *built in* at every stage of the manufacture.

At every step in the building of every Hewitt Tire rigid tests of both workmanship and quality assure more than 100% service for Hewitt users.

Every mile that you travel on Hewitts you are getting the service out of them that Hewitt tire builders have *built in.*

HEWITT RUBBER CO. OF CALIF.
703 Market St., San Francisco

HEWITT WHOLESALE DISTRIBUTORS
Northern California and Western Nevada
WEINSTOCK-NICHOLS CO.,
San Francisco, 538 Golden Gate Ave.
Oakland, 23d and Broadway

Southern California and Arizona
J. B. WOOD TIRE & RUBBER CO.,
462 East Third St.
Los Angeles.

Western Washington
TOMFORD TIRE & RUBBER CO.,
2115 Fourth Ave.,
Seattle.

Some valuable territory open for dealers. Write today.

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The Car of Commerce

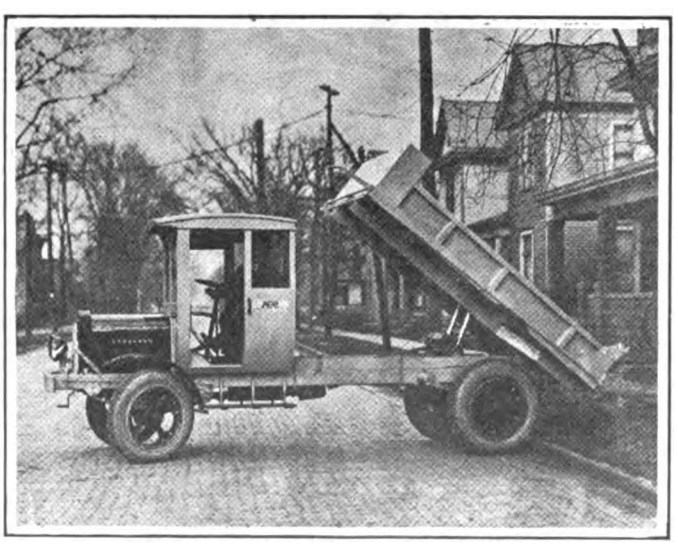
For Uniform Cost System

Use of National Standard by Every Owner at Next-to-Nothing Expense, Urged by Conference Chairman

USERS of motor trucks would do well, it appears, to get details about the National Standard truck cost system. These details are contained in a 50-cent folder in which "Motor West" has no financial interest of any kind. It is obtainable from the Truck Owners' Conference, 5 South Wabash Ave., Chicago, of the advisory council of which Harold P. Gould is chairman. He is publisher of "100%," an efficiency magazine. He states 34,000 of the folders have been sold. The idea is, uniformity in recording costs; hence, uniform basis of comparison between motor trucks, and between any or all of them and horse-drawn-vehicle service.

In June, 1917, the first organized meeting of motor truck users under the auspices of the Truck Owners' Conference was held in Chicago. Hundreds of practical users got together and discussed costs and performance. Methods of directing trucks that save thousands of dollars yearly were explained, and steps taken toward a standard cost system. Meetings were held in New York, Detroit, Buffalo, Philadelphia and Pittsburgh. Many who attended learned how, by simple dispatching plans, loading methods and bonus schemes, yearly savings of $1,000 to $300,000 were being effected. In every instance the recording of costs loomed as a very important factor.

Meantime, committees were working on a standard cost system. Dozens of existing systems were studied and their best points adopted. After 15 months the National Standard system was perfected.



FIRESTONE SAYS THIS IS FIRST DUMP TRUCK EQUIPPED WITH PNEUMATIC TIRES.

A dump truck, an Ace, delivered to a feed and milling company in Canton, O., is said by the Firestone Tire & Rubber Co. be the first one equipped with pneumatic tires. Such complete equipment is characteristic of the Ace. Its makers, the American Motor Truck Co., Newark, O., say that thus all doubt as to final truck cost is eliminated. Every Ace has an electric starter, horn, odometer, steel bumper, sectional radiator and military radiator guard, governor, all-weather cab, and electric lights which follow the cut of the wheels.

At the Detroit conference last summer an executive told how a Canadian concern installed the system and, after a month, was amazed, not at the low cost, but the high cost of operation. Investigation proved gasoline was being siphoned from the tanks of the trucks at night; that trucks frequently were used by drivers for personal use; that practically every truck needed mechanical attention. There was a shakeup. Now the trucks are operated for less than half the former cost.

Another executive stated that since installing the system his trucking had improved 100 per cent. As nine trucks are used, the saving is considerable.

The general manager of a nationally known concern said that trying the system resulted in 22 motor trucks replacing horse-drawn vehicles in one year because the trucks were proved more economical. He said 24 more trucks would be installed and horse equipment eliminated; and that in addition to economy compared with that equipment, enlarged range of service would mean more customers.

The National Standard system folder contains sufficient forms for one truck for one year, together with full instructions. Cost records kept by this system, and intelligently analyzed, are claimed to enable the user to get these results:

1. To compare one truck against the other as to detailed performance and itemized costs—thus determining which unit, size and type of truck is best suited to his particular trucking conditions.
2. To compare the mileage and cost per mile of different makes and types of tires—to know what is best for his trucks.
3. To decide which drivers are producing best—and to compensate them with bonuses which spur the other drivers to greater production.
4. To check the driver as to repairs, gasoline consumption, etc.—and thus secure better driving which reduces truck costs.
5. To pick out trucks that are making the most profit, and increase that type of service.
6. To rent out trucks at a safe margin of profit—which prevents haulage concerns going out of business.
7. To prove where it is cheaper to ship by truck than by freight.
8. To place transportation equipment, both horse and truck, in the service for which it is best fitted, not for sentimental but economical reasons.

Expands Sales Field for New Factory

The Moreland Motor Truck Co., of Los Angeles, expects to be located in its new plant group at Burbank within a few weeks. Several important distributing connections have recently been opened for Moreland trucks in all parts of the Coast.

In Salt Lake City the Yellowstone Garage has taken the Moreland agency. The Commercial Motors Co. will establish branches in Spokane and Portland.

Nearer home, the territory surrounding Pasadena, Monrovia, Azusa, Alhambra and San Gabriel has been set apart as a separate agency, handled by Robert J. McNab.

Clydesdale Truck Sells on Appearance

It has come to the point, in the experience of the Clydesdale Motor Truck Co., where shrewd business men are as much influenced by the appearance of a motor truck they contemplate buying, as of a passenger car. In the case of the Clydesdale, appearance symbolizes ruggedness and sureness, qualities which, it is believed, account for its cumulative success.

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GMC

General Motors Trucks

Cashing In On GMC Model 16 Demand

The dealer who sells Model 16, GMC ¾ to 1 Ton Truck, supplies a big demand—a demand that comes practically unsolicited.

Model 16 meets the big growing need for an all-around truck, and as a result production has rapidly increased in the GMC factory.

The whole country has been looking for the all-around truck, and has found it in Model 16.

When the Government standardized on GMC Model 16, it was selected for both the ¾ ton and 1 ton classifications.

It had the speed and flexibility for the one, and the chassis strength and motive power for the other.

General Business has recognized the wisdom of the Government's choice by selecting Model 16 in larger and larger numbers.

GMC Trucks are made by the exclusive truck-making unit of the General Motors Corporation.

GENERAL MOTORS TRUCK COMPANY

One of the Units of the General Motors Corporation

PONTIAC, MICH., U. S. A.

(598)

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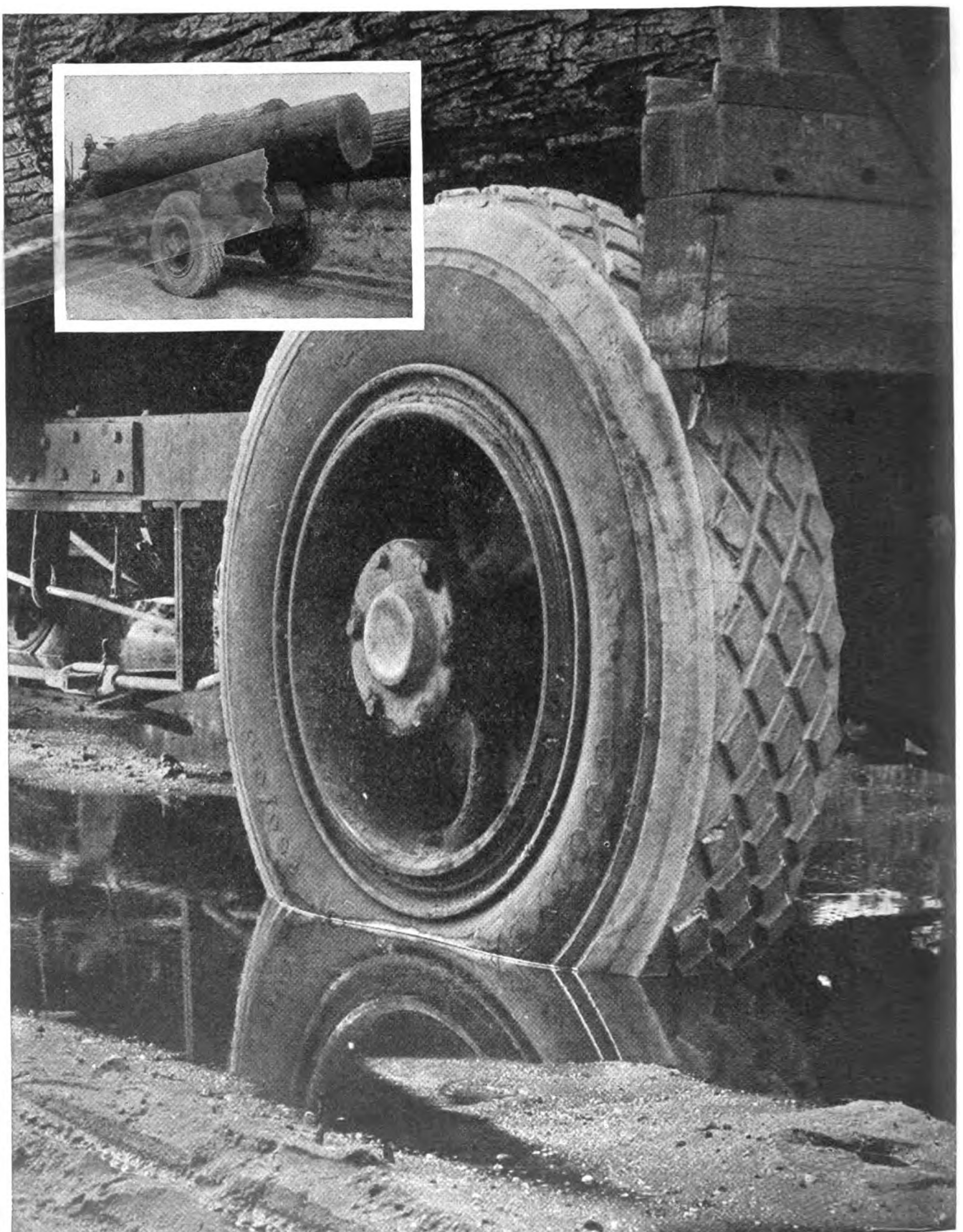

Un-retouched photographs showing Goodyear Cord Tires in heavy trucking service for the Case-Fowler Lumber Company, Macon, Ga.

Copyright 1920, by The Goodyear Tire & Rubber Co., Akron, O.

GOODYEAR

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Pioneering Progress With Pneumatics

IN explaining why he is arranging to replace all the remaining solid tires on his motor trucks with pneumatics, Mr. Henry Fowler, Treasurer of the Case-Fowler Lumber Co., Macon, Ga., writes: "Our trucks on Goodyear Cord Tires carry capacity loads of timber through mud and sand usually impassable to our solid-tired trucks. Indeed, the trucks on the Goodyear Cords frequently have pulled the solid-tired trucks out of mire and sand in which they have become stuck. Your pneumatics not only reduce fuel consumption and upkeep generally while increasing our daily trips, but they are particularly fitted for our rough work by reason of their downright toughness."

WHILE the business man quoted above and many others have been demonstrating the advantages of the perfected pneumatic truck tire, Goodyear has developed proof of an extraordinary nature.

Since April 9th, 1917, the Akron-to-Boston Express has been running night and day carrying Goodyear freight on pneumatic tires over its 1,500-mile highway circuit.

More recently the Akron-to-Cleveland Freight Line and the Goodyear Heights Busses have been adding to the evidence of cord pneumatic efficiency for all-year transport.

These extensive undertakings have sprung from the belief of Goodyear engineers in the eventual widespread adoption of pneumatics to free motor trucks of solid tire handicaps.

They have followed the original development of the Goodyear Cord construction, begun years ago, on which the whole practicability and every virtue of pneumatic truck tires is based.

They have been the means of exhaustive tests of Goodyear Cord Tires for trucks, also Tubes, Rims, Repair Materials, and others' engine pumps and air gauges made in collaboration with Goodyear engineers.

Now the cost data, developed by these pioneer fleets of pneumatic-shod highway trucks and busses may be obtained by writing to The Goodyear Tire & Rubber Company, at Akron, Ohio.

SAVE TRUCKS · LOADS · ROADS
Haul on Pneumatics

CORD TIRES

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RELIANCE HEAVY DUTY TRAILERS

"The Trailer With Red Wheels"

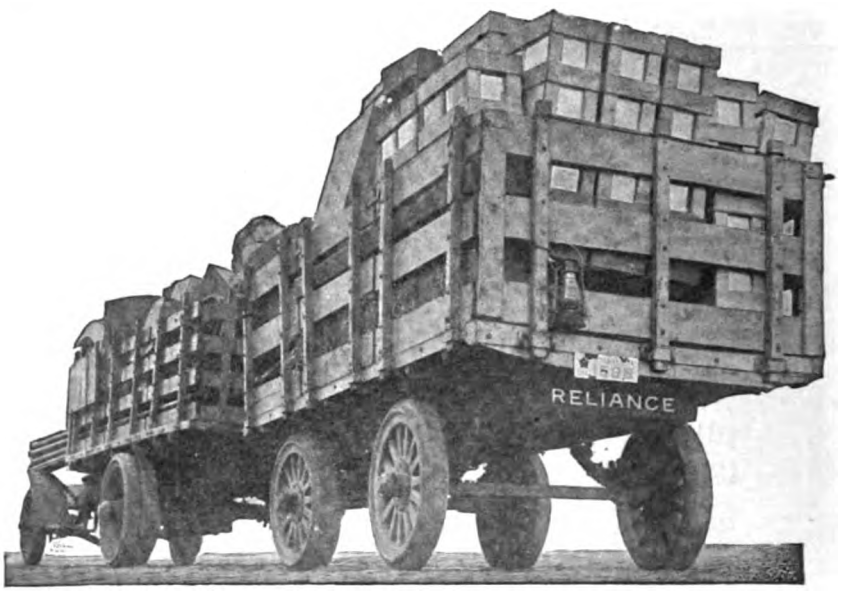
TRAIL 'ER WITH A RELIANCE AND SOLVE YOUR HAULING PROBLEM

A Card Will Bring You Our Latest Literature

Manufactured By

Reliance Trailer and Truck Co.

Home Office and Factory
1642-64 Howard Street
San Francisco, Cal.



RELIANCE MODEL 48 IN HIGHWAY TRANSPORTATION SERVICE

State of Washington Dealers Help

Tire and motor truck manufacturers are trying to convince truck users that overloading is not economical; that design and construction are conducted with certain approximate weights and speeds in mind; and that the law of averages cannot be violated profitably by anyone concerned. This fact sometimes—too often—is forgotten or purposely neglected, though always unwisely in the long run.

In the state of Washington dealers are heartily cooperating in educative efforts, and in helping toward law enforcement, in response to the plea for help by the secretary of state. The state law permits certain weights, in proportion to certain tire widths, and the law becomes automatically operative in a county upon decision of county authorities that for climatic, road surface or usage reasons it is necessary.

Changes Made in Mack AC Models

The load capacity of Mack AC models is affected by changes made by the International Motor Co., New York, due to legislation in some states. The AC models have been of 3½, 5, 6½ and 7½-ton capacities. The 3½ and 7½ remain unchanged. The 5-ton now is substantially the same as the former 5½ except in a few details. The specifications will show a change in over-all widths—89½ instead of 90⅝ inches. The 6½-ton model is new, very similar to the others in design, the engine, clutch, transmission, jackshaft and steering gear being identical.

Winther Lands 15,000-Truck Orders

It is reported the Winther Motor Truck Co., of Kenosha, Wis., has closed contract with the American Telephone & Telegraph Co. and other similar concerns for 15,000 motor trucks, to be delivered during a period of 16 months. The company also is said to intend producing 1710 automobiles in 1920.

Tribute to Republic Truck as Time Saver

When a Western farmer sends several pages of facts and figures based on the fine performance of a motor truck since last August, as one did to the Republic Motor Truck Co., Inc., of Alma, Mich., as to their Model 11, he must be enthusiastic. This truck, in 2500 miles, averaged only $2.75 daily for gas and oil. The only repair was one new fan belt. The hour mileage per gallon never was under 9 miles, sometimes as high as 15. It hauls eight loads daily from farm to elevator, against two with a team. Its average load is 80 bushels of shelled corn, against 60 with a team. This means more than five times as much work in a day as before. On one occasion, in fact, the truck did as much in one day as a team done in five, thus saving not only time but $24 a day in cash. The farmer expects his truck to pay for itself in two years. He considers it an even greater time saver than his automobile or tractor.

Plans of Motor Truck Sales Managers

Had H. C. Bradfield accepted on being chosen executive secretary, by the National Association of Motor Truck Sales Managers, Detroit would have been the organization's headquarters. Now three other men are under consideration and a mail vote will decide the location of headquarters. The association plans immediate action on a number of important changes in the interest of the business generally.

Truck Course in New York University

New York University leads the country in having installed a course of motor transportation engineering, in which the motor truck will be studied as a mechanical unit rather than from the standpoint of design. The new course is in charge of F. Van Lane, chief transportation engineer of Packard, and is open to students in mechanical and civil engineering, specializing in highway work.

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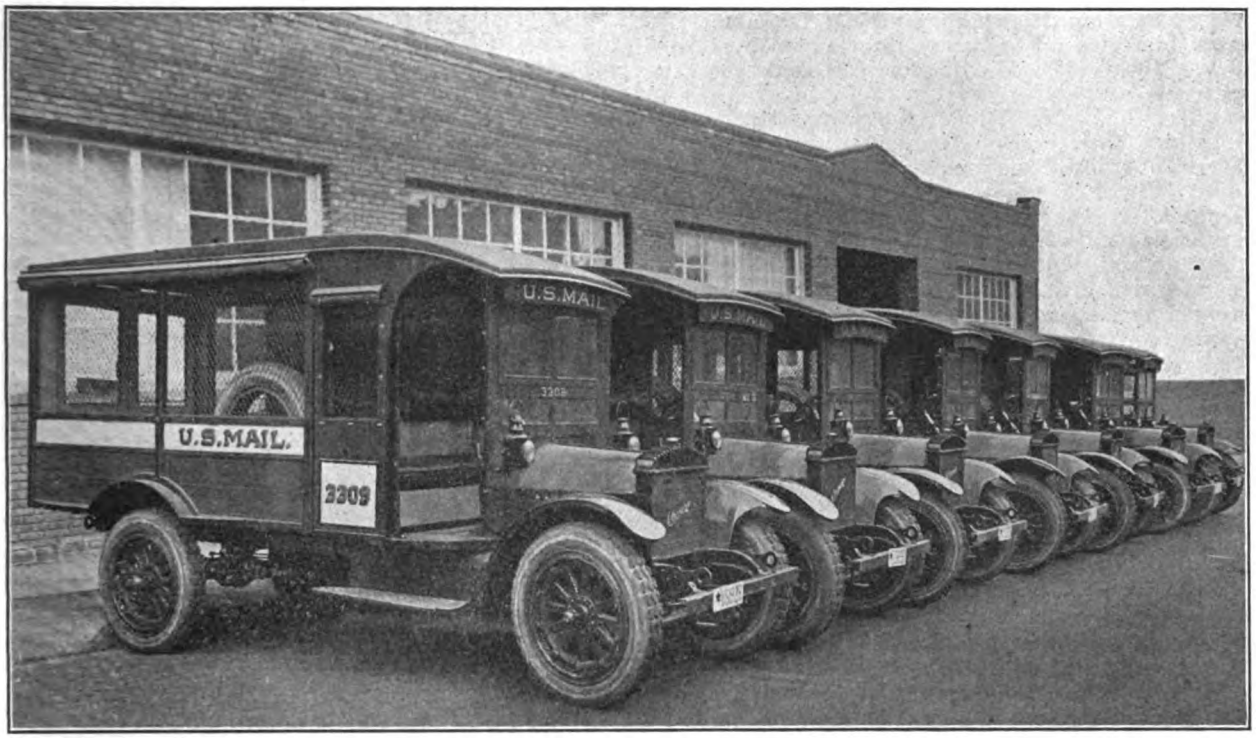

Where Clock-like Efficiency Is VITAL, There You Will Find Commerce Trucks—

In Uncle Sam's service, carrying mail, you will find hundreds of Commerce Trucks. That is the service that CANNOT fail. Whatever else stops—the mails goes through.

Swift—reliable—efficient—Commerce Trucks completely meet the needs of this exacting service. They can meet the needs of YOUR business with equal success.

It will pay you to investigate COMMERCE trucks *today*.

The COMMERCE MOTOR CAR CO.

DETROIT :: MICHIGAN

FREEMAN A. McKENZIE,
CITY GARAGE, INC.,
1205 South Olive St., Los Angeles, Cal.

McCRACKEN MOTOR CO.,
Portland, Ore.

COMMERCIAL MOTORS CO.,
Seattle, Wash.

C. P. KIEL,
1830 Van Ness Ave., San Francisco, Cal.

SULLIVAN TAYLOR MOTORS, LTD.,
1260 Granville St., Vancouver, B. C.

W. B. WOOD,
Pacific Coast District Manager,
1205 South Olive St., Los Angeles, Cal.

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Duplex Truck Man Held Up in Mine Town

A. C. Thode, truck expert and manager of the truck department of the McFarland Motor Co., San Francisco, was held up by a bunch of mining men at Tuolumne Hill, who made him give up to them a four-wheel-drive Duplex truck. Nothing for him to do but return home for another truck.

It was like this: Mr. Thode had started for Jackson. It was to be a three weeks' demonstrating tour through the Sacramento and San Joaquin valleys. He reached Tuolumne Hill, and before retiring talked four-wheel-drive Duplex. Next morning it turned out that some of the men he had talked to were owners of one of the big mines near by, and they were on hand to delay his start; to ask him to prove his claims, on some roads where some other trucks had ceased to function owing to the terrific conditions.

He proved up, hurried back to Tuolumne Hill and was loading up to move on. Then came the holdup. The mining men waved something under his nose. It was a check, for a price plus a premium.

Poughkeepsie's Bus Terminal Success

Bus parking in the streets eliminated; out-of-town trade totaling half a million dollars—directly traceable to establishment of a bus terminal for seven different lines by the chamber of commerce; great additional gain through saving of time and labor—these are results which Poughkeepsie, N. Y., a city of 40,000, achieved in a year, following a threatened no-parking ordinance.

The terminal is self-supporting. It accommodates up to 300 passengers daily and is open from 6:30 a. m. to 11:30 p. m., when the last bus leaves.

Heavy freight is handled by motor trucks from a privately owned terminal. The public terminal, however, handles a large volume of parcels. If a customer out of town wants a certain article, the merchant in the city is telephoned. He sends it by boy in time to catch a certain bus line. The parcel is receipted for by an attendant, who places it in a bin. There is a bin for every line. Drivers empty the bins just before leaving. The carrying charge is either prepaid or collected by the driver.

Acme Truck Co. Speaks About a Clutch

If motor truck owners realized the importance of the clutch in relation to other factors, they would be more likely to demand a proven clutch, is the first statement in the January issue of "Acme Angles." The Acme uses the Borg & Beck clutch, of which it says more than 500,000 are in service, and the mono dry plate principle of which, it says, is used by 71 per cent of the automotive industry. Its ease of operation encourages gear shifting instead of trying to do too much on the high, it is claimed.

The Acme Motor Truck Co., Cadillac, Mich., enters its fifth production year with a vim, judging by its snappy organ. Some illustrations in it, by the way, would surprise the Northwest as to the immense oak logs which are hewn and hauled in Indiana.

Harris Succeeds Murray as Bethlehem President

Hiram F. Harris, who was general manager of the Republic Motor Truck Co., and then appointed general manager of Bethlehem Motors Corp., succeeds Arthur T. Murray as president of the latter. Mr. Harris is one of the country's foremost industrial engineers. Mr. Murray, whose retirement elevates Mr. Harris, will devote his energies to the American Bosch Magneto Corp., Springfield, Mass., of which he was elected president a year ago when it was reorganized.

Bethlehem to Greatly Enlarge Capacity

President Murray, of Bethlehem Motors Corp., announced at the New York show that the plant at Allentown, Pa., soon will be two and one-half times its present huge size and almost, if not quite, the largest truck manufacturing plant in America.

Don't Overload, is Most Frequent Advice

Entirely aside from the disadvantage of prohibitory motor truck fees and regulations due to damage to roadways by excessive speed and especially by overloads, overloading is being found so unprofitable that motor truck makers are doing all they can to bring the fact to the attention of users.

If the fact is accepted as such, there remains the driver's excuse that he didn't know it was overloaded—which excuse is a poor one. With properly designed springs, when a truck has its normal load the springs are horizontal. When they sag, the weight on them is excessive, and every excessive pound carried costs the truck owner more than he receives for carrying it, is a fact plentifully demonstrated by experience. The life of the truck is shortened. Every part suffers. Shocks and strains upon axles are greatly increased—not only while the truck is moving under power; when brakes are applied the tires, wheels, brakes and axles are all given tremendous strain even under normal weight; the more weight, the more strain.

Evidently Rainier is Popular Abroad

Six months ago the great Easton-Lloyd Co., Birmingham, Eng., ordered from the Rainier Motor Corp., New York, a few Rainier worm-drive delivery trucks. In less than a month they ordered 20 to be sent them monthly; in a few weeks this was made 50 per month, and recently they cabled to make it 100 per month without fail and for a long period. They supply England, Ireland, Scotland and Wales. Rainiers have been ordered extenstively, in fact, in various countries in Europe and in Africa, South America, Australia; even in Jerusalem. The company's factory on Long Island has been doubled, the present capacity being 20 to 30 per day.

Diamond T to Expand on Coast

The Diamond T truck will be pushed to the forefront in Southern California and Arizona by the newly reorganized agency, the Diamond T. Pacific Truck Co., of Los Angeles. The change coincides with the recent visit to the Coast of C. A. Tilt, president, and A. J. Whipple, sales manager, of the Diamond T Motor Car Co., of Chicago.

Composing the new dealer firm are H. H. Ham, president; H. T. Sheriff, secretary; F. F. Balzer, treasurer; and Hale Ayers, sales manager. Branch agencies will be maintained in Bakersfield, San Luis Obispo, San Diego, El Centro and Calexico.

Gave Impetus to Motor Truck Transport

When the Railroad Administration ruled that less than carload lots could only be shipped within a certain radial distance, it thrust success upon motor truck transport. In comparing cost of railroad and motor truck transportation, not only actual operating cost, but attendant costs must be figured, including train carrier delays, shipping room needed, lumber for construction, etc. These two statements were made during the Highway Transport Conference at the Chicago show, by the traffic manager of a great elevator company.

President Acason is for Assembled Truck

President H. W. Acason, of the Acason Motor Truck Co., Detroit, believes in the assembled truck because its builder derives the benefit of experimental testing in development and refinement of every part. New parts cost considerably less. The assembled truck is an assurance of lower upkeep. Every Acason is given threefold inspection—at the plants of the parts makers, at the Acason plant before assembling, and on completion.

Cooper and Searles Control Gary Plant

A controlling interest in the Gary Motor Truck Co., Gary, Ind., has been purchased by the Cooper Motor Car Co., Kansas City, and the Searles Motor Car Co., Des Moines. The plant's capacity is to be enlarged to 6,000 trucks per year.

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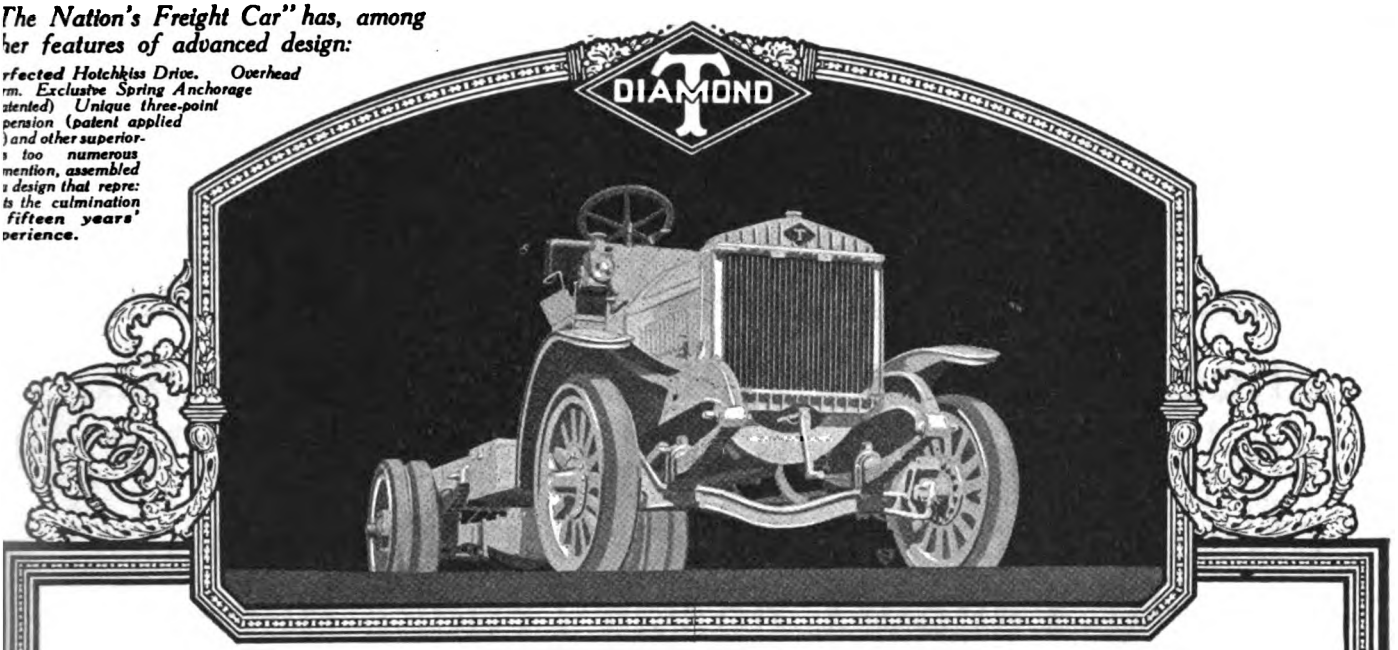
The Nation's Freight Car" has, among her features of advanced design:

rfected Hotchkiss Drive. Overhead rm. Exclusive Spring Anchorage atented) Unique three-point pension (patent applied) and other superior- s too numerous mention, assembled s design that repre: ts the culmination fifteen years' perience.



DIAMOND T

"The Nation's Freight Car"

Authority begins here!

The only authority for statements about Diamond T comes from its *performance.* The proof must be in the product.

That is why we have persisted in pointing to the continuous success of this organization since 1905.

That is why we refer more than once to the fact that the first Diamond T trucks, of 1911, are still operating.

That is why the entire Diamond T line, from 1½ tons to 5, is termed, the country over, "The Nation's Freight Car."

That is why readers of MOTOR WEST become users of Diamond T without "mental reservations." And it is the one logical explanation for our suggestion that your order should anticipate your need.

These Distributors are behind Western Sales and Service:

Diamond T Truck Company of Washington,
Distributors for the State of Washington
1122 East Madison St., Seattle, Wash.

Diamond T Truck Sales Agency of Oregon, Inc.,
Distributors for the State of Oregon
89-91 North Ninth St., Portland, Oregon

Diamond T Pacific Truck Co.,
Distributors for Lower California
1220 S. Grand Avenue, Los Angeles, Cal.

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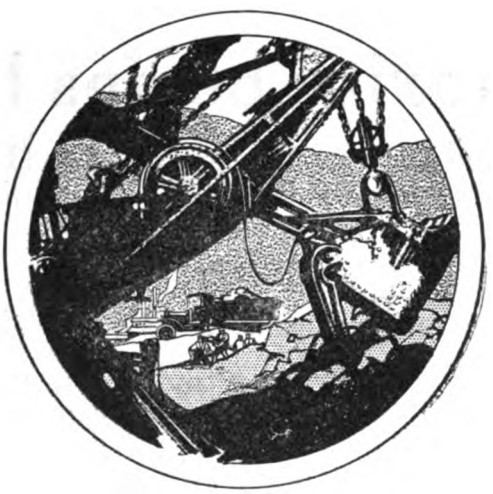
It does not just happen that the Republic is the largest-selling truck in the world today. It goes back to such basic things as the Republic's performance, its wonderfully rugged strength, and real economy. More than 60,000 shrewd business men have now bought Yellow Chassis Trucks because the Republic convinced them that it actually does better hauling at less cost.



REPUBLIC TRUCKS

Republic Motor Truck Co., Inc., 941 Michigan Avenue, Alma, Michigan

REPUBLIC Yellow Chassis TRUCKS

Please Mention "Motor West" When Writing to the Advertiser

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Wilson dependable MOTOR TRUCKS

Why Do Motor Truck Dealers Make Money?

This is a very frank and important talk to automobile dealers, and those intending to enter the business, relative to the vital question of profits to be made and how to make them

THE established truck dealer who has gained wisdom through long experience knows how easy it is to sell a well advertised motor truck.

And he knows the hardships that come with trying to sell an unknown truck.
It is seldom, therefore, that you find the experitnced motor truck merchant contracting for an unadvertised and unknown account.

He does not want to do the pioneering. He does not want to put his time and resources back of an unknown product. When, for example, he tries to sell a customer the "Blank" truck, he does not want to hear the prospective buyer say: "The 'Blank' truck? I never heard of it!"

You old dealers know that this does not spell success. And you younger ones, and you who are thinking of going into the business, can gather a lesson from the older dealer's experience.

For the American buyer today does not absorb voluble promises and doubtful facts as he may have done in days of yore. He has learned something and he is influenced by, and guided to the door of, the truck maker who has sufficient faith in his product to come out boldly in great advertising channels and state his claims openly to the world—in such reputable publications that the very fact that they publish his claims is a substantial guarantee of their dependability.

The appearance of this advertisement marks the thirty-seventh year of the continuous existence of the J. C. Wilson Company as a manufacturer of heavy duty haulage vehicles —first horse-drawn and then motor-driven. For many years of this time we have been telling the public, through the medium of the great national publications, of the worth of Wilson motor truck construction and the dependability of Wilson truck service.

The result is that the public KNOWS Wilson trucks. In addition to their great mechanical worth they are an advertised asset to the dealer, they possess a GOOD-WILL VALUE which makes sales easier for him, and creates a greater re-sale value for the retail buyer.

The name "Wilson" as applied to motor trucks is so deeply imbedded in the public consciousness, so thoroughly intrenched in public favor, that sales (and re-sales) of Wilson trucks are infinitely easier to make than if we depended upon circulars and postal card campaigns to acquaint the public with our product.

There can be no question about this. What are the big selling passenger cars? What are the big selling soaps? What, even, if you please, are the big selling chewing gums? The answer writes itself, and you know it: They are the passenger car, the soaps, the chewing gums—AND THE MOTOR TRUCKS—whose makers come into the open and state their claims in the great journals of the world.

This is only good, sane sense. If you sell an advertised product you are not up against the continued, heart-breaking barrier of obscurity, of "I never heard of your truck."
It may be that some of you old dealers who read this are getting ready to take on the sale of motor trucks, or that some of you men in other lines of business are thinking of taking up the sale of trucks as a vocation. If you are we would like to hear from you. Perhaps your territory is still open.

Write us. There's money in the business, and it's a clean business—a business man's business.
Let us send you (free) a booklet we have prepared called "Money in Motor Trucks." It is interesting and instructive and will open up to you an avenue for clean profit-making that will be to you an industrial revelation.

1½, 2½, 3½ and 5 tons Capacity---All Worm Drive

J. C. WILSON COMPANY

DETROIT, U. S. A.

37th Year

COMMERCIAL VEHICLE MANUFACTURERS

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Many New Moreland Agents West of Rockies

A number of new Moreland motor truck agencies dot the map West of the Rockies, in anticipation of the greatly increased production when the new plant at Burbank, Cal., near Los Angeles, starts, which will be soon. General Sales Manager P. E. Mallory has returned from Salt Lake City and the North. At Salt Lake City he placed the agency with the Yellowstone Park Garage. He found the county officials there highly pleased at the culmination of their long fight to obtain Morelands used by the Government during the war, and at having received nine. In Seattle, the Commercial Motors Co. was closed with and will establish branch agencies in Spokane and Portland. The entire Northern section is now thoroughly taken care of, including Eastern Washington and Northern Idaho. There are Moreland dealers in every county in Washington and in Victoria and Vancouver, B. C. The territory around Pasadena, including Altadena, San Gabriel, Alhambra, Monrovia and Azusa, heretofore handled by the Los Angeles force, now is a separate field, with Robert J. McNab as agent.

Mr. Mallory noted great road-building activity, especially in the Northwest, where many miles of fine roads are under way. This has led to a great demand for the 4-ton dump trucks.

New Northwest Records for G. M. C.

The remarkable pace at which GMC trucks are forging ahead in the Pacific Northwest territory is shown by some figures recently made public by the Eldridge-Buick Co., General Motors distributors for Washington, Oregon and Northern Idaho. They took the GMC line in 1915, and since then sales have annually run as follows: 1915, 31; 1916, 157; 1917, 263; 1918, 367; 1919, 695.

The Eldridge-Buick organization has done especially well in the Seattle and King county field, where the retail sales department sold 128 trucks during 1919 to local business houses. It is estimated 75 per cent were "repeat" sales, 25 per cent new business.

One GMC salesman in Seattle, his activities restricted by the city limits, sold $80,000 worth of trucks at retail in the eleven months following February, 1919, when he joined the company.

Samson Adds Light Truck

Sales of Samson farm tractors and implements and Samson trucks in Southern California have been taken over by the Stockton, Cal., factory, the Samson Tractor Co. H. L. Marsh heads the new factory branch at 157 N. Los Angeles St., Los Angeles.

The Samson truck line is a new branch of the company's activities. There are two models, ¾-ton and 1¼-ton, for farm use, and deliveries will be possible shortly.

United States Motor Truck Co., its Book

The United States Motor Truck Co., Cincinnati, is manned by a force which may be termed interestingly practical. This is strongly indicated by the makeup of "Floating Power Plant News," its handsome house organ, edited by Advertising Manager E. H. Southgate; and the indication is strengthened, in the recent issue, by a two-page spread of portraits of its personnel. The range of types is unusual. With such force, all intent upon utility, something's doing; and the last picture in the group, that of C. E. Weaver, wears the most eager service department smile you ever saw.

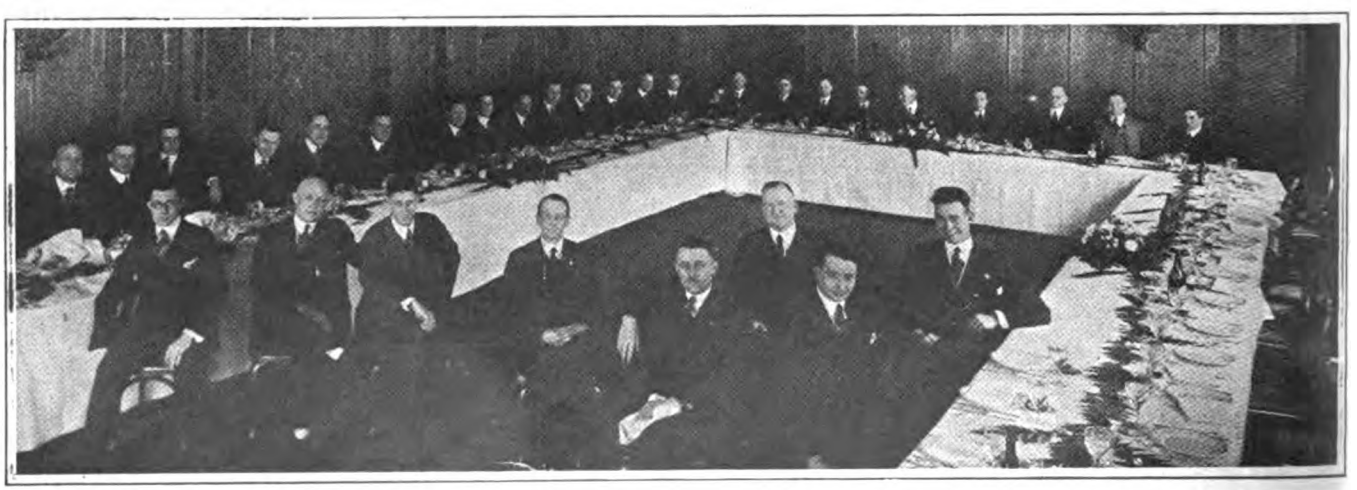
The whole publication radiates interesting practicality—a couple of good editorials, one on the importance of developing motor truck service, in view of present and prospective economic conditions; and the entire issue embodies sensible and tersely worded, informatively illustrated pages, showing the various uses of the company's trucks as demonstrated in various parts of the country, even in Mexico. It is stimulative to the latent desire of a man to buy a truck, by setting before him, directly or through the dealer, examples of how it would fit his business.

"Horse Sense" Well Served in Four Colors

The December issue of "Horse Sense," the monthly publication of the Traffic Motor Truck Corp., St. Louis, displays a beautiful cover design in four colors. The painting from which the cover was reproduced was done in oils by one of America's foremost artists and is in every way worthy of him. It shows a Traffic truck running alongside a railroad train, the road and tracks being parallel, and bears the caption "Pals." The back cover, also in four colors, depicts a Christmas scene. Another feature is a double-page illustration, showing some of the hundreds of dealers who attend the Traffic Truck convention in St. Louis, December 11 and 12, 1919, which concluded with the rather startling feat of selling $22,000,000 worth of Traffic trucks in slightly less than 22 minutes.

England Good Lightweight Truck Market

H. Herbert Seabrook, of Seabrook Brothers, London, representing the Napoleon Motors Co., visited the factory in Traverse City, Mich., recently. He said England is overstocked with heavy motor trucks after the war but that the good roads and high speed possible within the law favors light trucks. He also said little attention is paid to finish, but much to lubrication, at least an hour a day being devoted to this. Sales Manager C. D. Peet of the Napoleon Co. believes a combination of good inward works and bearings, plus high finish, is the best advertising for American trucks over there.



BANQUET OF MID-WEST DISTRIBUTORS OF COMMERCE MOTOR TRUCKS AT THE HOTEL CONGRESS DURING CHICAGO SHOW.

George D. Wilcox, director of sales and advertising, presided. In addition to five-minute talks by Commerce distributors, several parts manufacturers from whom Commerce buys material, talked on their prospects for furnishing material in 1920. Mr. Wilcox announced the Commerce Motor Car Co. would be forced to add $100 to the Commerce list prices, effective February 16, 1920.

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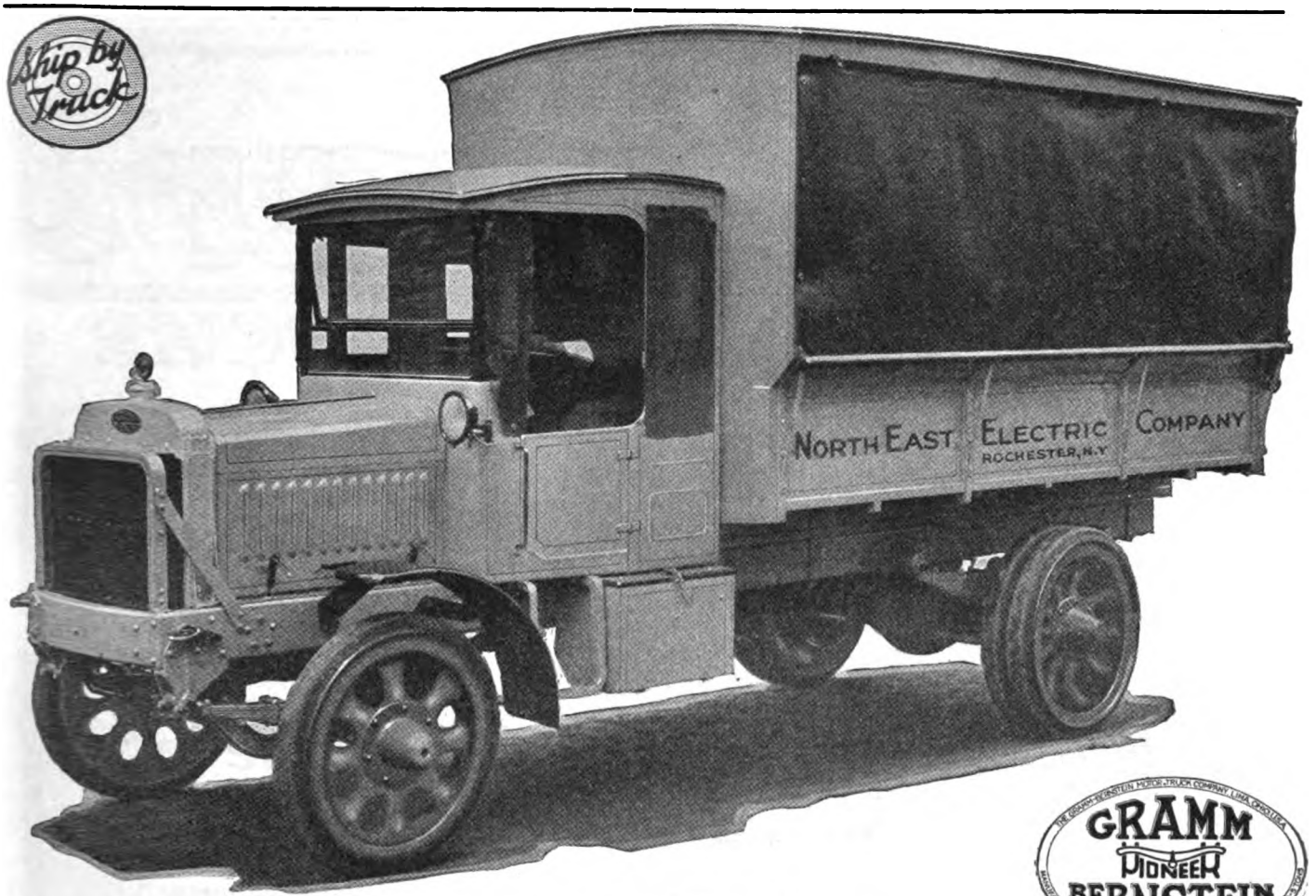

The Advantage to Dealers of 20 Years' Experience

The Gramm-Bernstein dealer does not have to waste time in the slow, tortuous process of disarming sales resistance.

He does not have to submit comparisons of price or comparisons of merit.

The Gramm-Bernstein line includes certain exclusive and basic advantages of construction, any one of which justifies its price.

Taken altogether, they set Gramm-Bernstein quite apart from comparison or competition.

The reputation of B. A. Gramm for initiative and constructive improvement in motor transportation dates back twenty years.

His inventive genius is responsible for basic improvements that have long been accepted standards of the industry.

The very last and highest developments of his unique engineering experience are presented in the Gramm-Bernstein truck.

Years of better performance and better service are the biggest selling factors in the Gramm-Bernstein.

This is established by the extraordinary percentage of re-orders.

Let us show you how Gramm-Bernstein prestige is continually helping its dealers to easier and more profitable sales.

Gramm-Bernstein Worm-Drive Trucks in 1½, 2, 2½, 3½ and 5-ton capacities are now sold completely equipped, ready for the body—not an extra to buy.

All Gramm-Bernstein Transmissions are provided with a pad for attaching Gramm's Basic Power Take-off. Dealers and truck owners should assure themselves that any trucks purchased with power take-off do not infringe B. A. Gramm's Basic Patent No. 1194994.

The Gramm-Bernstein Motor Truck Co., Lima, Ohio

Pioneers Since 1901—Builders of the First Liberty (U. S. A.) Truck

F. B. CLARK, West Coast District Sales Manager
Room 401, 143 Second St. San Francisco, California

GRAMM-BERNSTEIN

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Stewart MOTOR TRUCKS

Eight Stewarts owned by U. S. Treasury Dept., Washington, D. C.

Repeat orders the backbone of Stewart success

In hundreds of cases the first Stewart truck has gradually become a fleet—all Stewarts. This sort of repeat business proves owners' satisfaction as no other fact can—satisfaction with price, upkeep and running costs, daily work, capacity, long life.

It isn't the purchase of a big fleet at one crack that tells the story—it is the pyramiding of the success of the first truck by adding more Stewarts to keep pace with growth of business.

Here are a few examples:

Ward & Ward, Inc., Buffalo—Bought first in May, 1916. Now owns 20.
Henry Ball, Milwaukee—Bought first in June, 1917. Now owns 22.
Rothenberg & Co., New York—Bought first in November, 1918. Now owns 16.
Schlosser Bros., Indianapolis—Bought first in February, 1918. Now owns 12.
Halifax Transports, Ltd., Halifax, N.S.—Bought first in October, 1918. Now owns 11.
Sullivan Parcel Delivery, Milwaukee—Bought first in March, 1918. Now owns 10.
O. J. Gude, New York City—Bought first in May, 1918. Now owns 8.
Macon Transfer Co., Macon, Ga.—Bought first in July, 1919. Now owns 5.
A-1 Baking Co., San Francisco—Bought first in November, 1917. Now owns 3.
National Refining Co., Sioux City—Bought first in May, 1919. Now owns 3.

FIVE SIZES

¾ ton Chassis	1 ton Chassis	1½ ton Chassis	2 ton Chassis	3½ ton Chassis
$1275	$1695	$2095	$2695	$3650

F. O. B. Buffalo

Thousands are in use throughout the world—in over 600 American cities, on hundreds of farms, and in 27 foreign countries.

STEWART MOTOR CORPORATION,
BUFFALO, N. Y.

H. A. SELLER CO., 1535 Van Ness Ave., San Francisco, Cal.
Distributors for San Francisco and Northern California

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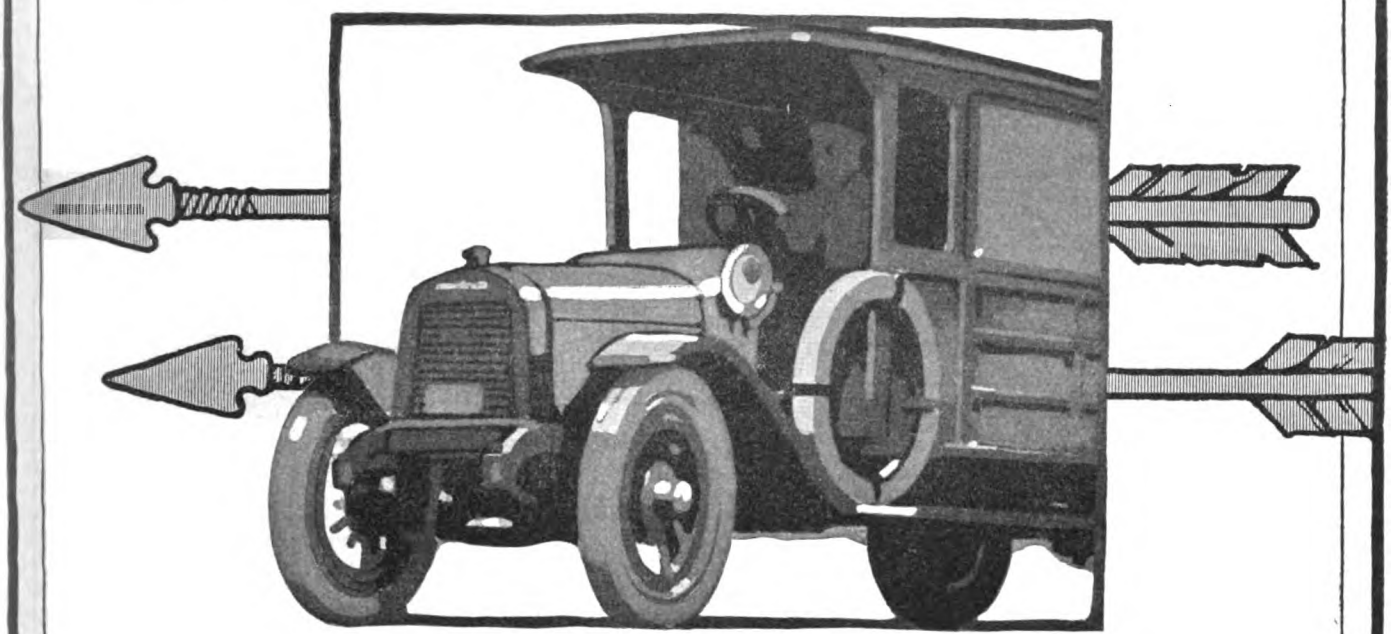
Swift & Sure!



3/4 ton BETHLEHEM DEPENDABLE DELIVERY

The Fastest Selling Truck in the Biggest Truck Market

This newest Bethlehem Truck completes a line which covers the Truck Market most profitably. It adds to a Bethlehem Dealer's List of Prospects—every butcher, baker, grocer, farmer or dry goods store. Anyone who has anything to deliver swiftly and surely is a logical buyer of a ¾ ton Bethlehem.

$1495 Chassis

Someone in your territory is going to dominate the motor truck selling field. Someone is going to put the business building forces behind the Bethlehem Franchise to work. Someone is going to represent Bethlehem. *Are you the man?*

¾ Ton Chassis
1½ Ton Chassis
2½ Ton Chassis
3½ Ton Chassis

BETHLEHEM MOTORS CORPORATION
Allentown Pennsylvania

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New Torbensen Department Chiefs

Robert Enos, vice-president of the Torbensen Axle Co., Cleveland, announces three new executives, each nationally known in the industry: J. D. Smith, manufacturing manager; G. W. Veale, production superintendent; G. W. Clarkson, engineer. All were formerly with Timken, as works manager, production supervisor and engineer, respectively.

The desire to acquire such men is stated to be the result of the increased production plans of a number of motor truck makers with whom the Torbensen company is associated, and with whose plans is linked the steady development of the Torbensen internal gear axle. The internal gear drive type, Mr. Enos says, was worked out several years ago in a small machine loft in New Jersey. The present development is denoted by the Cleveland plants, asserted to be among the largest axle factories in the world. The claim for the Torbensen axle is that it delivers 92 per cent of the motive power to the driving wheels.

Trucks Reduce Snowfall Congestion

Many thousands of dollars are spent each winter in each of a number of Eastern cities as the direct cost of clearing streets of snow; not to mention the much greater cost caused to commerce. Minneapolis, which has the distinction of having been first to establish a ship-by-truck terminal, also uses trucks to pull snow plows early each morning after a snowfall, to keep rural routes open not only for freighters but passenger cars as well. The investment pays well.

Bethlehem Motors Loses Hall

A short vacation; then new plans for Howard B. Hall, whose resignation as vice-president of Bethlehem Motors Corp. takes effect February 1. He has had charge of the corporation's export activities. Mr. Hall was an associate of Arthur T. Murray in organizing the concern in 1916, becoming general sales manager and severing his connection with the Brady Murray Motors Corp., which then was eastern distributor of Chandler cars. Later, though retaining his interest in the factory, Mr. Hall organized the Chicago Bethlehem Sales Co., to distribute Bethlehem trucks in the Middle West. He was president of this company a year and a half, later going to New York to promote its exports.

While a young man, Mr. Hall's experience dates back through a number of years in the industry. He was also at one time, eastern representative of the Pacific Mail Steamship Co., and later a member of a prominent exporting company, specializing in motor trucks, which experience has made him an authority on foreign trade conditions, especially in the Far East.

Eight Years Record of One Truck

The flexibility, the economy, the comfort, it may be said, of motor truck transportation, is exemplified in the eight years' experience of the Coast Mfg. & Supply Co., Trevarno, Cal., in its varied, continuous use of a Federal which was delivered to it June 30, 1911. In 1914 it met up with a railroad train, but its frame was straightened, its engine brazed and it is still very much in commission. The company's plant of many buildings is spread over 30 of its 240 acres. Moving many things from one part of the plant comprises much of the truck's duty.

When the plant was moved from Oakland, doing it without losing a day's production was accomplished largely through the truck's ability to carry heavy uncrated machinery, over recently made roads that had not yet settled. What happened to the roads may be another tale, but this is a truck story.

An everyday performance of this particular truck is to shift railway freight cars from one loading platform to another, thus dispensing with the endless puff-puff and noisy, expensive maneuvering of the thus antedated yard locomotive.

Advice Given on Ship-by-Truck Rates

One of the meatiest talks at the Highway Transport Conference in New York, and at the one in Chicago, during the shows, was by Ernest Farr, chief of the Firestone Ship-by-Truck Bureau. He urged against competing, in rates, with any carriers already giving satisfactory service in that and other respects, and said the non-disastrous, profitable, sure way is to give service which will speak for itself; to greatly increase the use of cost-keeping methods; and to base rates on operation cost thus learned.

Maxwell Does a Hard, Fast 242 Miles

From Blythe, busy center of the Palo Verde Valley, Riverside County, Cal., comes news of a remarkable trip by a 1 ton Maxwell motor truck, carrying over 4000 pounds of flour and other freight. The 242 miles from Los Angeles to Blythe were driven by W. T. Murray in 28 hours. Gas consumption was 39 gallons. The Chuckwalla stretch, a terror to motorists, was crossed without a hitch. The time was fast considering the load and the route traveled by the little truck.

Not to License Truck Drivers Under 18

California traffic officers are to rigidly enforce the new state law against licenses or badges for chauffeurs under 18 years of age, and no boys under that age may operate motor trucks or delivery wagons.

CONVENTION OF BETHLEHEM MOTORS CORP. OFFICIALS AND SALES REPRESENTATIVES AT ALLENTOWN, PA., JAN. 13-16.

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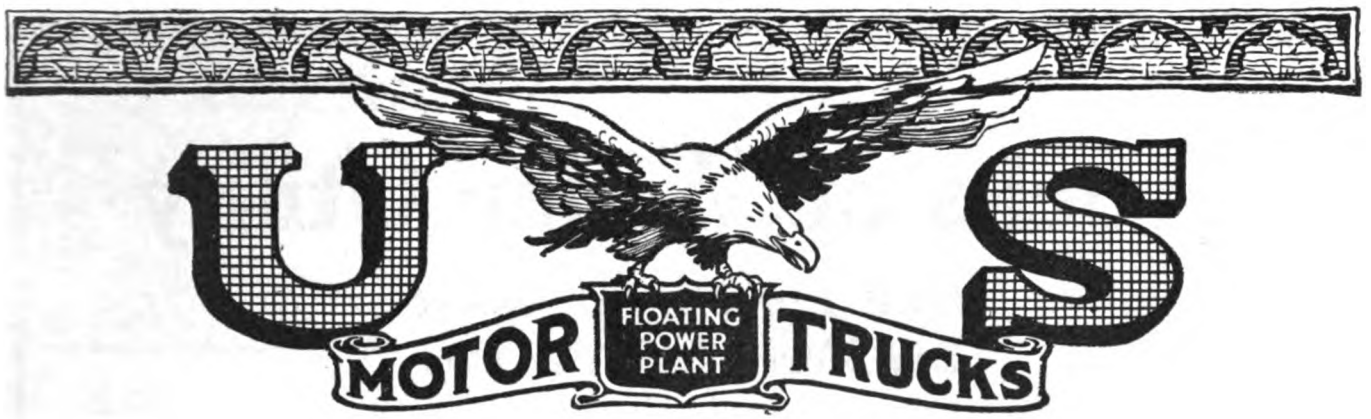


"As Good As Its Name"

The Hit of the Chicago Show

More dealers appointed—more trucks sold—than by any other two truck manufacturers who exhibited there.

Forty new dealer contracts closed—five hundred trucks sold—that's what UNITED STATES MOTOR TRUCKS did at Chicago—and here are the reasons, as we heard them from dealers who saw the exhibit:

> "A revelation in motor trucks—two years ahead—wonderful construction—unusual refinement of detail—finest line of trucks built—best looking line of trucks I ever saw—half sold when the prospect sees them—certain to give long service—unusually attractive dealer proposition—"

FIVE MODELS

Worm Drive—3,000, 4,000, 6,000, 8,000 and 12,000-pound capacities. Also 1½-ton Farm Truck with five-way convertible U. S. Standard Farm Body. This complete line is the

LATEST WORD

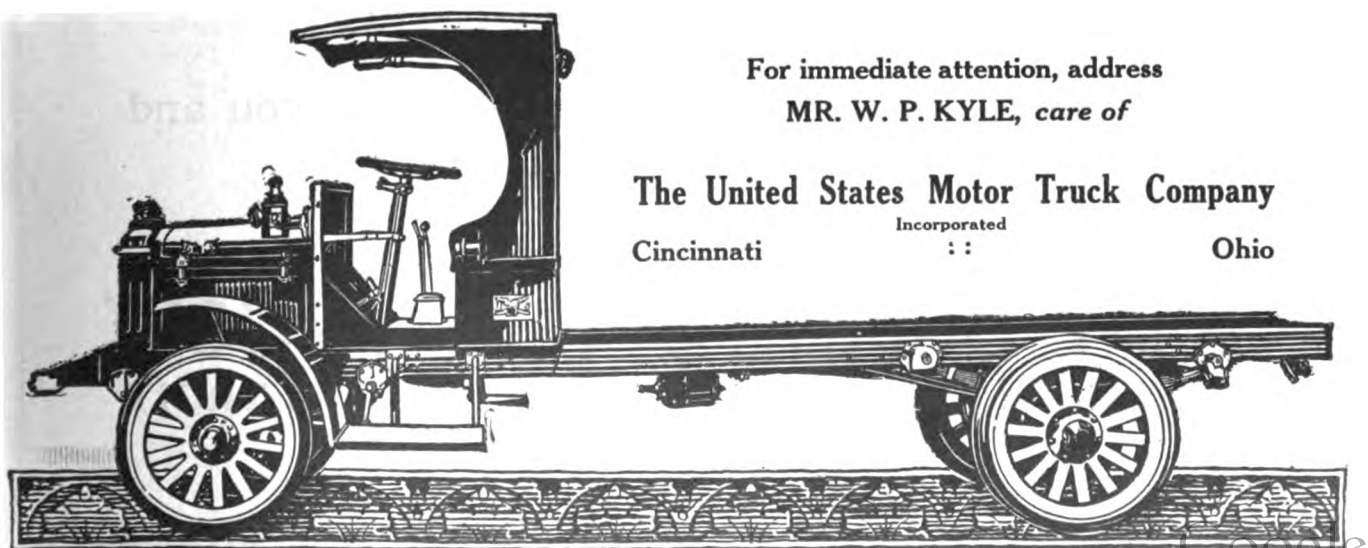
in motor truck design, construction, quality, efficiency and economy of operation.

DEALERS:

You want to build for the future. You want to sell the same truck line year after year. You want trucks that will SELL. U. S. is the answer. This is the line you should handle, for it is two years ahead of the others, and will STAY ahead.

The fellows who saw the line at Chicago closed on the spot. Nowhere else could they find a line of trucks completely answering the user's requirements, so dependable, both to serve the customer and make money for you.

Are you going into the motor truck business? If in it, are you dissatisfied with your present connections? Are you considering a change? Then communicate with us, for your own good. Our proposition will stand the closest investigation, and our age (twelve years of motor truck manufacture) is proof that we know the business, and are in it to stay.



For immediate attention, address
MR. W. P. KYLE, *care of*

The United States Motor Truck Company
Incorporated
Cincinnati : : Ohio

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Trucks of Wider Utility

Built For Higher Speed and More Work Per Day

Putting pneumatic tires on an ordinary truck doesn't make it a truck to meet the present need for higher speed in transportation.

The *modern* truck must be *built* for speed—not only in tire equipment, but in every other detail. Motor, transmission ratios, springs, brakes, weight distribution, and many other things must be properly proportioned to give speed with *reliability* and *safety*.

There is a line of trucks so constructed—built to meet the new demands of merchant and farmer.

Find Out About It!

Write today for details. It won't obligate you and it may mean much to you.

Address

NEW DESIGN SPEED TRUCK

524 GOEBEL BUILDING DETROIT

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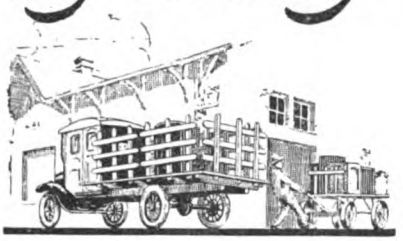
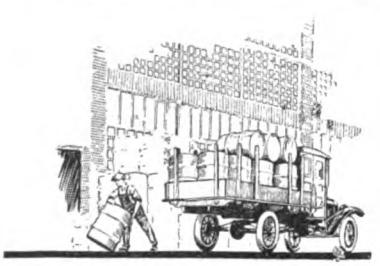
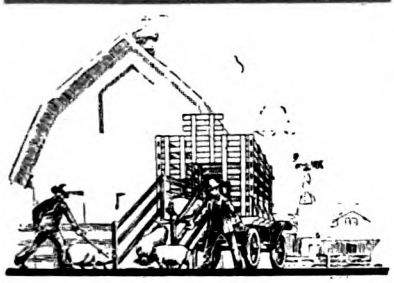
Adaptability-Utility-Capacity



MOLINE
COMMERCIAL AND TRUCK BODIES

The advantages of Moline Commercial and Truck Bodies for Ford Chassis and Trucks make the Moline the logical line for dealers to handle.

The Moline Line is so thoroughly standardized, that its bodies meet 90 per cent of all possible demands with regard to adaptability, utility and capacity.

Serving Ford Dealers, there are 22 Moline Branches, advantageously situated throughout the United States.

In many instances the Ford Assembly Branch is located in the same city as the Moline Branch. This affords immediate delivery of the Body and the Truck—does not require dealers to stock up in anticipation of business—and permits a most rapid turn-over of money.

Add to this the unquestioned high quality of the Moline Line—and you understand why Dealers like and take quickly to the Moline Line.

Write for the details of our Dealer's Proposition.

MOLINE PLOW CO.

BODY WORKS

Sales Office: MOLINE, ILL. ***Factory:*** FREEPORT, ILL.

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City Motor-Bus Profits

Giving Practical Relief from Congestion Increases One Company's Share Value from $75 to $500

EVIDENCE of the value of the motor bus as a car of commerce becomes more obvious every day. Its use for interurban travel and, in the Pacific Coast region, for long distances, is more noticeable than its use within cities. In view of traffic congestion in nearly every large center, however, the motor bus looms above all other remedial factors which are actually available, as compared with widening streets, creating one-way lanes, building overhead or underground avenues of travel, and so on.

To the public, the greatest value of the motor bus is in its flexibility of movement. This was proved by the swarms of jitneys, which played hob with the revenues of street car companies for that particular reason.

The dinky jitney has passed. The well-regulated motor bus line has taken its place. No better example of how it works than that of Long Beach, Cal., where the question is not, shall the motor bus be eliminated to save the street car lines, but, shall the city continue to let private capital operate the motor bus lines or try to do it itself with a view to more income than the 3 per cent of earnings which the motor bus company pays it for the franchise.

Stock of the company, which sold at $75 a share three years ago, now is reported hard to get at $500. The good profits upon a relatively very small investment are due to service, which without undue effort on the part of the bus people is better than it was and is given by the street car lines. People go blocks out of their way to ride in the buses, which, on various routes, pass at five-minute intervals. They run more closely to schedule, and deliver passengers at destinations more quickly, than the street cars. One citizen said a man "would have to be either a street car official or a fool" to say the city's transportation service is not much better than it was. Scores of other citizens backed him up. Long Beach has a population of 60,000.

The bus company's investment comprises mainly 26 buses, which, at an estimated cost of $3,000 each, would total $78,000. Its drivers are paid $4 a day. The labor items runs very little over $50,000 annually. Actual depreciation in the buses is not more than 20 per cent annually.

The fare, including transfers anywhere, is only five cents. In the year ending December 14, 1919, a total of 2,670,000 persons was carried. In these days of huge figures the gross receipts, $136,473.65, do not seem large, and of this amount $4,094.20 was paid to the city, but that the profit on the investment is very excellent is shown by the high value of the company's shares.

The latest development in the Long Beach motor bus situation indicates very strong competition with, perhaps elimination of the trolley service. One stockholder in the motor bus company, bidding against it and two others, has obtained a 15-year franchise for all such transportation, paying $21,000 for the privilege and agreeing to pay the city 5 per cent of gross receipts. Bidding began at $1,000 and rose in $1,000 jumps. The winner declared afterward he would have paid $30,000 if necessary. He has ordered $60,000 worth of buses—26 of them. The present buses seat 16 to 20 persons. The new ones will seat 35 to 40. A company will be capitalized at $100,000 to $200,000. Salaries will be low, dividends for stockholders relatively higher.

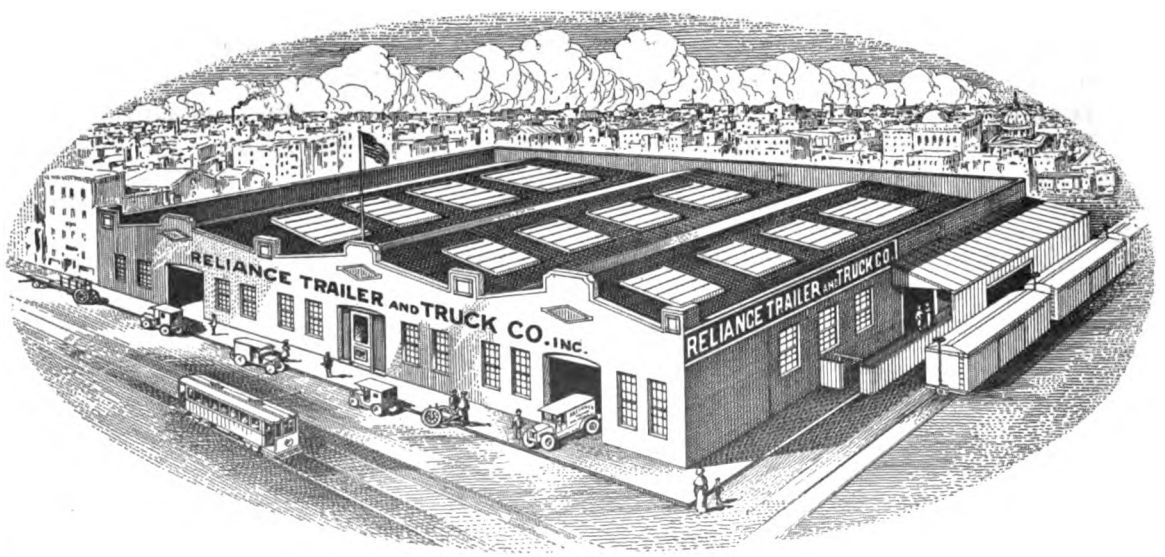
The Long Beach public apparently is willing the bus promoters should make as much money as may be, inasmuch as the fare is only 5 cents, including transfers. The trolley fare on one line has been forced down from 10 to 5 cents. The noise of the trolleys is objected to. The buses are quieter.

Jas. G. Heaslet Heads Signal Truck Co.

At a special meeting of the board of directors of the Signal Motor Truck Co., Detroit, James G. Heaslet was elected as president to fill the unexpired term of W. K. Hoagland, who has resigned. Mr. Heaslet has acquired a very substantial interest in the Signal company, and as he is one of the pioneers in the automotive industry, his addition is looked upon at this time as a wonderful asset. For the past several years Mr. Heaslet has been vice-president of the Studebaker Corporation, in charge of production and engineering. During the war he had complete charge of the production of Liberty aviation motors, and to him is due in a great measure the wonderfully successful results of these motors.

Motor Vehicle Equipment Co. Sales Deal

Charles T. Cutlip, a director in the recently organized Motor Vehicle Equipment Co., Detroit, will handle its sales. He has been in manufacturing and sales lines in the automobile business 15 years. The company's product is cabs for motor trucks.



NEW PLANT OF RELIANCE TRAILER & TRUCK CO.—PIONEER TRAILER MANUFACTURERS OF SAN FRANCISCO, CAL.
Constructed entirely to meet the company's needs, the new Reliance plant is located at 1642-64 Howard St., San Francisco. The Reliance line comprises two- and four-wheel trailers and semi-trailers. Growth of business has forced the company into the larger factory, where they will be established about March 1.

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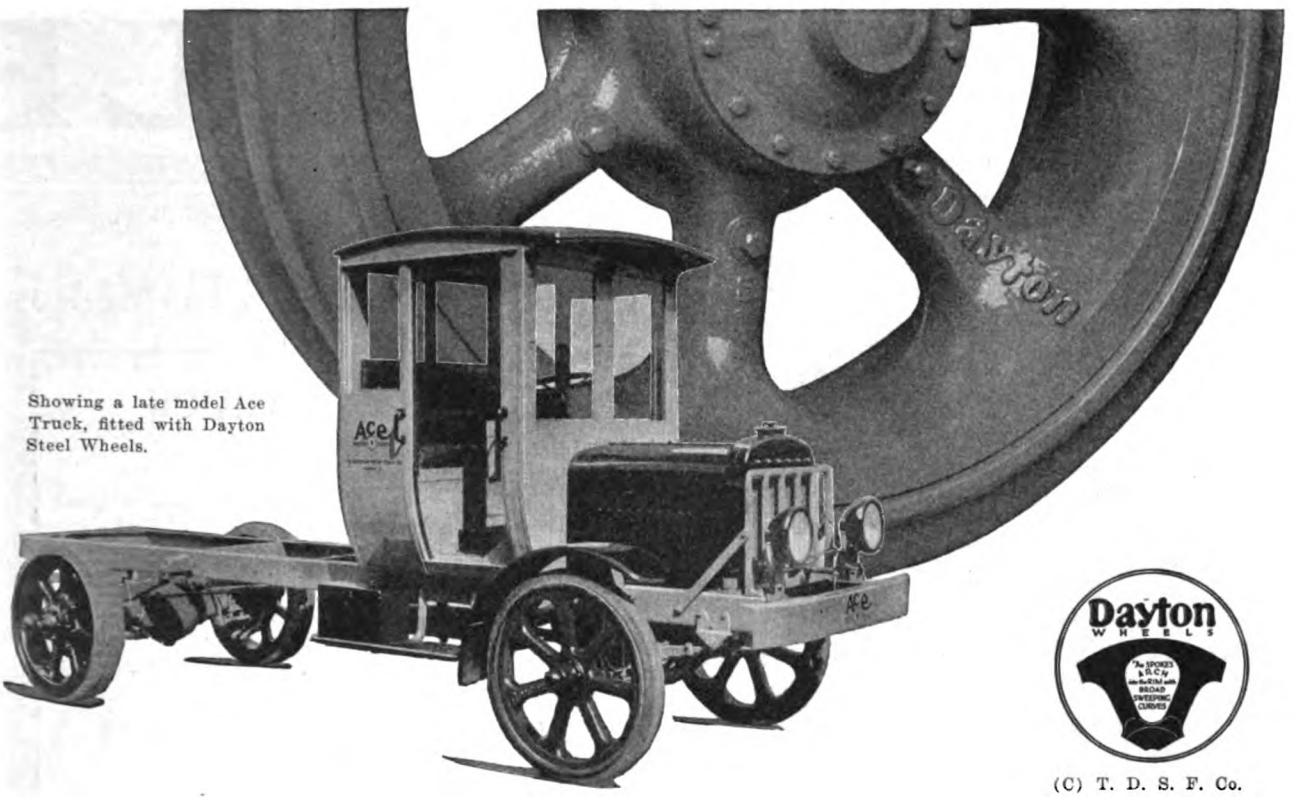

Showing a late model Ace Truck, fitted with Dayton Steel Wheels.

(C) T. D. S. F. Co.

Truck buyers are demanding steel wheels

A LARGE truck dealer in Cincinnati went on record recently as saying that within two years it will be next to impossible to sell a truck of two tons or more without steel wheels.

"Truck buyers," he said, "in mightily increasing numbers are turning toward steel wheels, and particularly Dayton Steel Wheels. They have found these wheels to be the only sure remedy for wobbles, flats, loose spokes and other prevalent wheel faults."

Consider what such wheels would mean to the sale of your trucks. Your salesmen could assure a prospect freedom from all annoying and expensive wheel repairs. Your trucks would have an advantage over all trucks not so equipped. Dayton Steel Wheels insure perfect wheel service. They remain true and permanently round; they never require a penny for repairs, and never tie up the truck. These wheels, moreover, add from 10 to 30 per cent to the mileage of tires.

Dayton Steel Wheels are also light in weight, resilient, and have the strength to meet every truck usage. They do not swell or warp in wet weather, or shrink and dry up in arid climates. They are desirable wheel equipment.

If the manufacturer of your trucks has not already equipped with Dayton Steel Wheels, he will do so for you if you insist.

For more complete data about Dayton Steel Wheels, write for our booklets.

Dayton
Steel Truck Wheels
Patented

The Dayton Steel Foundry Co. *Main Office & Works,* **Dayton, Ohio**

Detroit, 1008 Chamber of Commerce, Los Angeles, *3769 Moneta Ave.* Cincinnati, *416 First Nat'l Bank Bldg.*

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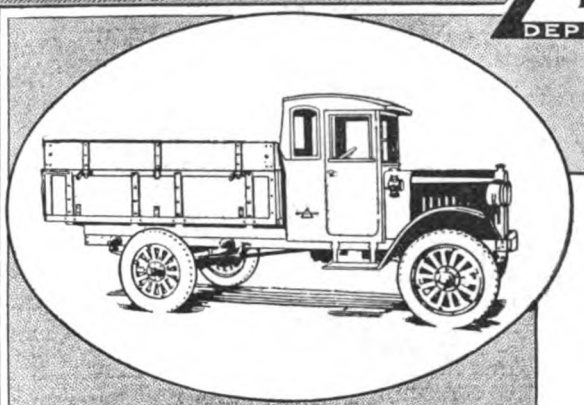
TRI-ANGLE

POWER SERVICE MOTOR TRUCK DEPENDABILITY

A Three-Fold Value

¾ · 1½ · 2 Special & 2½ Ton Models



A "REAL" ¾-TON TRUCK

¶The TRIANGLE Model AA illustrated herewith is the *only* truck of its size built *wholly* from *high-grade genuine truck units.*

¶No adapted pleasure-car equipment is used. Consequently it possesses all the power, flexibility, service and dependability of the TRIANGLE line.

¶A 25-horse Herschell-Spillman motor is employed. The balance of the truck is practically identical with the larger models.

¶This means that Model AA is in every sense a "Real" truck and its rating is unusually conservative.

Your territory may still be open.
Address Dept. C.

Eastern Representatives
TRIANGLE MOTOR SALES CO.
381 Fourth Ave. New York City

New England Distributors
Eugene F. Lally and Sons Co.
Boston, Mass.

TRIANGLE MOTOR TRUCK COMPANY
St. Johns, Michigan

REYNOLDS

MOTOR TRUCKS

Are correctly designed and built for Pacific Coast conditions—great reserve power, rugged construction, durability and continuous service. A Square Deal policy backed by the Pioneer motor truck men behind it, make the trucks highly profitable to Distributor and Owner alike.

1½, 2½, 3½ and 5 Ton Capacities

Desirable territory is open to Responsible Distributors

REYNOLDS MOTOR TRUCK COMPANY

MT. CLEMENS, MICHIGAN

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HEADIN' WEST!

Electric
Starting
and
Lighting

1½
2½
3½
Tons

The "KALAMAZOO"

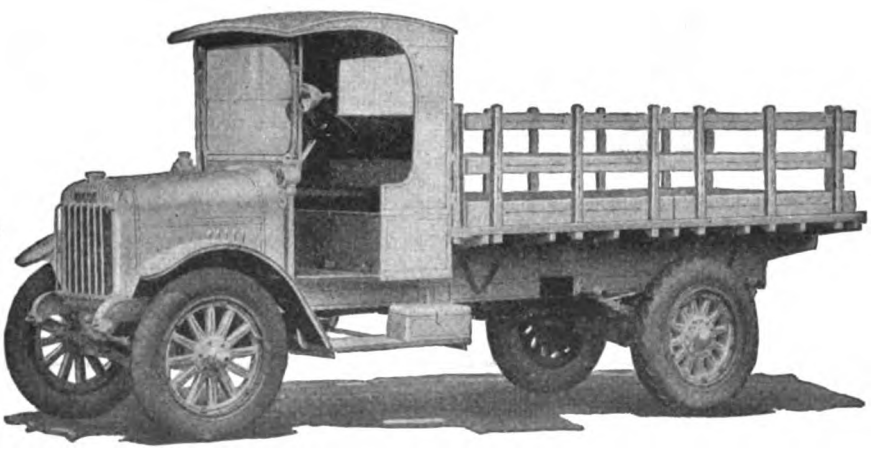
"The Hand-Made Truck"

Unsurpassed opportunities for West Coast Distribution. Write—

Kalamazoo Motors Corporation, Motor Truck Division, **Kalamazoo, Michigan**

WOLVERINE

Some Good Dealers Territory is still open.



If interested, wire or write at once, as all territory will be covered very soon.

The Truck of Good Service

An up-to-date truck in every respect which will give 100% service to the owner. Fully equipped with electric starting and lighting system including a searchlight.

MANUFACTURED BY

AMERICAN COMMERCIAL CAR COMPANY

DETROIT, MICH.

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WHAT

THE OTHERS FORGOT

The practical automobile signal must be effective and efficient all of the time

There are many automobile signals—look them over—see for yourself—some day signals, some night signals. But there is only *one* Day-Night Signal; only one signal equally effective and efficient at all times under all conditions *both* day and night.

A man won't buy a car he thinks will run efficiently but part of the time. Will he then knowingly buy a signal whose effectiveness is doubtful part of the time?

It will pay you to know more about *the one* full-time signal.

Write—

DAY-NITE AUTO SIGNAL

82 8TH ST. PHONE MARKET 6960

SAN FRANCISCO.

On What's Ahead, on Railway Rates

E. A. Williams, Jr., president of the Garford Motor Truck Co., calls attention to the motor truck's opportunity to lessen the people's burden upon return of the railroads to private ownership, when there will be a marked increase in freight rates. Estimates on this increase vary from $750,000,000 to a billion dollars. It is said it will add $187 to $250 per year to every family's living costs. The remedy is, and can be applied very widely—motor truck transportation.

In many communities where motor express lines have been established, actual comparison proves their great economic advantages. From New York to Yonkers, up the Hudson, the railroad rate was $1.04 per 100 pounds; by truck, 20 cents; between New York and Philadelphia, $1.02 by rail, 80 cents by truck; and so on. The rail rate was figured as first class; 15 cents per 100 pounds was added for teaming from shipper's place to depot; the same from depot to consignee; plus 24 cents per 100 for increased cost of boxing to withstand rough usage, as well as heavier weight due to boxing. The comparisons are obvious even without including in the railroad cost such items as extra book-keeping, billing, and possible loss of time; not to mention damage.

In reducing cost to shippers, in rates, time and safety, the cost to consumers also is reduced by motor truck transportation, which is one of the greatest little eliminators of the profiteering middleman so far discovered.

No Standardized, Low-Priced Trucks Abroad

Demand for motor trucks in this country is such that the foreign trade cannot possibly receive the attention of American manufacturers that conditions in Europe and elsewhere abroad would seem to plentifully warrant. The field is waiting for our makers when they get around to it, as European factories do not turn out trucks of our standards or prices. Trucks built over there are said to be cumbersome and expensive; will carry the loads and last a long time; but cost more than any but the wealthy concerns can afford; apparently are more likely to destroy roads than the average-weight ones made here. Standardization is lacking there. If a part breaks it takes months to obtain new ones.

Give Springs More Care; Don't Overload

If tires are not inflated and otherwise cared for they give warning. Springs need little attention and usually receive none; and the report they submit usually is a sharp one—there is a snap and the fender rests on the wheel. Loose spring clips cause the most breakages, but another reason, indicative also of unprofitable overstrain on the entire mechanism as well as of injury to the roadway, is overloading. Every part of the machine, including the springs, is designed for certain maximum loading. Exceeding this is bad business, which can be only partly alleviated by slow speed, which also is bad business because it wastes time. It is advised that if overloading, or its equivalent in the form of speed or bad roads, seems necessary, extra springs be used.

Farm Design by U. S. Motor Truck Co.

To fill a nation-wide demand for a good farmer's truck, the United States Motor Truck Co., Covington, Ky., has designed a 1½-ton model with its type of farm body, based on intimate study during several years of farm hauling and rural transportation. It is believed to solve the problem of marketing animals and of general farm work.

Double Drive Truck Plant May Move

The Double Drive Truck plant may be removed from Chicago to Cadillac, Mich. A tentative agreement is signed. The Double Drive company is a new one, and recently had sold two trucks and had six on hand. The Acme Motor Truck Co. already is in Cadillac; also the Kol Ben Wire Wheel Co.

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Field DURABLE BODIES

An Enduring Investment

In the good will of your customers—that's the truth about *every Field Body you sell.*

Field Durable Bodies are built to give *permanent satisfaction.*

They possess great strength, with the lightest weight consistent with that strength.

The bolster construction, for instance, is most substantial. Guardangles, stake pockets sills and floor are tied solidly together—a feature found *only* in *Field's.*

Our manufacturing facilities are complete, and so large that we produce Field Bodies at a price surprisingly low.

Our knockdown shipments secure lowest freight rates. A complete line of *Ford Bodies* always in stock. We are originators of the interchangeable unit idea for trucks.

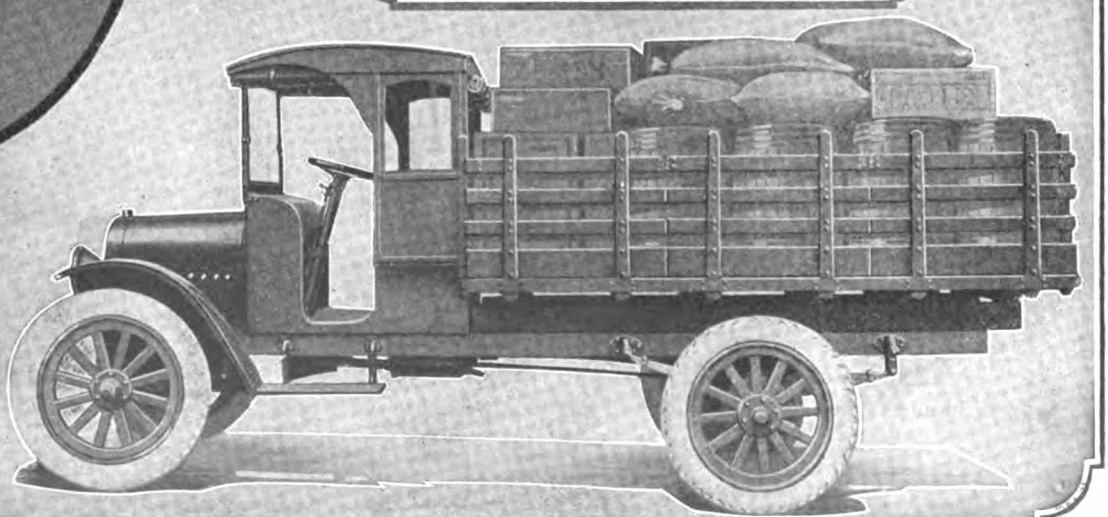
Write for prices and full description.

Address Dept. X.

FIELD MANUFACTURING CO.

OWOSSO, MICHIGAN, U. S. A.

Largest Exclusively Truck Body Plant in the World.



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Mexico Tractor Time Near

Signs Multiply that Soon Development by All Automotive Means Will Be in Use in Neighbor Country

MEXICO is reviving, despite tales and truths to the contrary. The Carranza policy of using 60 per cent of the country's income for army purposes is alleged to be political rather than it is military. Travelers through Mexico, as far south as Mexico City, say there is no doubt that things are looking up. Assuming this to be so, and that the alleged Carranza policy soon must cease and be superseded by one of commercial growth, then there is the liveliest kind of prospect ahead for demonstration of what automobiles, motor trucks and tractors can do as developers, in view of the scarcity and bad condition of rail facilities. All will be important, but tractors especially so.

Some time ago it was rumored that Henry Ford would establish a tractor plant in Mexico. Such factories will do very much more than give direct employment to Mexicans and thus switch them onto the main line of industrial and social progress; make them produce the things which make life worth while. It will open unlimited commercial possibilities. It will automatically lessen and largely eliminate restrictive legislation and prejudice. It will result in American hustlers going into Mexico, to the great benefit of the country as well as themselves.

In Lower California, where Governor Cantu is friendly to American enterprise, the way will be particularly easy. Commercially, if not politically, that great peninsula, naturally an integral part of California, will become Americanized, a fact that will be coincident with the comfort of its native people.

Small tractors and large ones—Mexico will be calling for them in large numbers before long. All the signs point that way. As time passes, the need and inclination to investigate real or fabricated wrongs against Americans down there will lessen. In a large sense, what has been, and is, had to be and has to be. It is evolutionary; and the process is nearing the get-together-and-do-something stage.

Studying Effect of Speed on Draft

Prof. J. B. Davidson, head of the agricultural engineering department of Iowa State College, has investigated during the past year, at Ames, Ia., and in California, the effect of speed upon draft, in tractor plowing. He found that doubling the speed increased draft 16 to 25 per cent and increased work done 50 to 100 per cent. Increasing speed from two to three miles per hour increases draft 8 to 12 per cent, varying with the soil. The furrows are smoother and more pulverized at the higher speed. Stubble ground is well plowed at four miles per hour.

Linn Tractor Appears on Coast

A newcomer in the tractor field on the Pacific Coast is the Linn tractor. B. H. Baird, Pacific Coast distributor, has demonstrated these machines hauling sugar beets, plowing and logging with great success.

Unlike most tractors, the Linn has a carrying capacity of 5 tons on its own body. It might be more correctly termed a tractor-truck, as the design is similar to an automobile truck with the exception of the rear self-laying track in place of wheels.

The power plant is a 45 H.P. Red Seal Continental engine, and with a four-speed model 60 Brown-Lipe transmission and Brown-Lipe-Chapin differential the Linn is one of the most powerful hauling propositions on the market today.

The normal load for tractor and trailer is 16 tons over an 8 per cent grade. The maximum speed is 6 miles an hour.

I. H. C. Manual Words of Wisdom

From the I. H. C. Manual the following bits of tractor wisdom are extracted and somewhat paraphrased:

Start and stop gradually, and avoid jerky motions while operating.

Don't day-dream and try to make a racing car out of your mechanical Dobbin.

Dodge the rough spots when you can.

Don't let the engine run at high speed under load.

Don't blame it for not running when there is no fuel in the tank. Old advice—but old mistake, too.

No tractor will run right unless every part of it that needs lubricating is lubricated.

Keep the cotterpins and locknuts in place. They do no earthly good when they're not where they ought to be.

When the motor knocks, its spirit is hollering for help. Other signs are pounding, squeaking and grinding.

Screwing bolts and nuts hard enough to strip threads is one way of doing it. Try the right way.

Keep the instruction book and repair list nigh. Ask questions. Napoleon did.

Fullerton High School Course Success

Farmers around Fullerton, Cal., were greatly benefited by the recent three weeks' tractor course of the agricultural department of the Fullerton Union High School. More than 35 ranchers were given lessons in all features of gas engine and tractor construction, repair and operation. By co-operation of distributors in Orange and Los Angeles counties, ten tractors were used. Service experts took machines apart and reassembled them. Operation was taught in the field and the last day was demonstration day, particularly in connection with orchard implements. Owing to the success of the course, there probably will be another next winter. Many of those who benefited this time wish to repeat.

Citrus Man is Strong for Tractor

J. H. Lewis owns 115 acres near Ontario, Cal., covered with lemons and orange trees. The land has from 6 to 12 per cent grade. By using a tractor the orchard is kept in a good state of health and bears an immense crop. Mr. Lewis plowed 95 acres of orchard and 20 acres for grain, and cultivated 100 acres three times, using 100 gallons of distillate, 20 gallons of gasoline and 70 gallons of oil.

Tractors Lead in Cultivating California

A recent report in the monthly bulletin of the California Development Board is that 65 per cent of all the acreage farmed in the state is now being cultivated by gasoline or steam propelled tractors, and it is estimated that in the hauling of produce from ranches the percentage approaches 85 per cent.

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Cletrac
TANK-TYPE TRACTOR

Meet the Rush Right!

A few weeks more and Spring will be here —with your road work going full blast.

Big contracts, limited time, unsettled weather — and help scarce and costly. You've got to speed up every operation to come out a winner.

Let the Cletrac help you. *Powerful, tireless, sure-footed*—it keeps your road jobs moving rapidly—saves time and cuts costs.

The Cletrac hauls, plows, grades, ditches, scrapes and fills. It replaces six or eight horses and *does more and better work.*

Rough, boggy, sticky or hilly ground—nothing stops the Cletrac. It travels steadily and easily, *anywhere,* on its broad metal tracks. Burns kerosene or distillate perfectly and economically and can be run by one man or a boy.

Get set for your big rush. Buy your Cletrac *now* and get prompt delivery.

One of the 1200 Cletrac dealers is near you. See him or write today for free advertising booklet "Best Power for Road Work."

The Cleveland Tractor Co.

19201 Euclid Avenue, CLEVELAND, OHIO

Largest Producers of Tank-Type Tractors in the World

Visit the Cletrac exhibit at the National Good Roads Show in Louisville, Ky., February 9th to 13th—Space 164-166

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Dealer Now Digs Potatoes

Former Tractor Seller Finds It Superior to Horses but Still Uses Them for Lighter Kinds of Work

WITH the erstwhile humble potato risen to the plane of a high-priced food, its cultivation is a fit subject for more intensive study than in the past, for those who aspire to be, or to compete with, potato kings. In such sections as on the Pacific Coast, a winter cover crop, is found to be profitable practice, by a number of potato growers, to renew the soil for potatoes the following spring. In plowing under cover crops four, six, even eight horses are used.

Not only for this digging in, but for digging potatoes when ripe, J. L. Olson, of Van Nuys, Cal., executive secretary of the California Seed Potato Growers, finds the tractor superior. He uses a two-plow orchard type. It handles two 14-inch plows in turning the soil, and a single digger in harvesting the crop. The tractor has cost only $34 for repairs, and for a year and a half had none whatever. The soil is light, some being almost blow sand. This spring Mr. Olson will farm about 200 acres, in two widely separated tracts. A boy of 16 does the operating.

The small tractor and a motor truck are found a great combination. The tractor is run up on the truck on skids, under its own power, and is thus quickly transported from field to field. Tractor and plows are thus loaded, carried ten miles from one tract to the other, and ready for work, in an hour and a half. This method of moving from place to place Mr. Olson prefers to driving the tractor on the road with bands around the wheels, because it saves time. Mr. Olson may have learned this fact because he formerly was an automobile truck and tractor dealer. Also, he says horses are not altogether indispensable. He keeps two to four of them in planting and cultivating potatoes, and other relatively light work.

To Make "All-in-One" Tractor in Oakland

The "All-in-One" tractor will be manufactured in a plant on Jackson St., Oakland, Cal., by the Pacific Power Implement Co., financed by Marc Bunnell. The name indicates the idea, which is to combine in one unit, in what is said to be a remarkably simple manner, the tractor and most standard farm tools now operated by horse power. This will obviate towing the tools behind the tractor and trying to control them at a distance from the operator, the alternative to which is to employ two men, which of course involves extra expense.

Hart-Parr Distributing Agency Opened

The Hart-Parr Co., of Charles City, Ia., now has a distributing depot in Los Angeles. It was established recently by Charles L. Schnuerer, manager of agencies and branches. The company was busy with war work but recently began quantity production of tractors. The new machine is medium-priced, kerosene-burning, wheel-type, for general farm work.

Negotiating for Kardell Utility Tractor

The new Kardell Utility Tractor, made by the Kardell Engine and Truck Co., St. Louis, will be handled by W. L. Cleveland, Los Angeles, if negotiations go through. It is a 10-20 horsepower machine, wheel type, said to be well fitted for both orchard and field.

Take Manufacturers Advice on Oil

It is much safer to assume that the advice of the tractor manufacturer, as to the oil to use, is honest than not; in fact, the idea that the manufacturer has any pocketbook interest in any make of oil, except insofar as its use will make his machines run so as to assure their good reputation, would be foolish. In any event, light oil or even heavy oil which loses viscosity when heated is unfit for heavy-duty bearings, just as it is for high-speed airplane motors. The man who specifies light oil for light but very high-speed engines does not know. As to bulky tractors, take it for granted the maker does know. The way these makers test oil is to have it dripped through a hole, and the rate of flow measured for every 10 degrees rise in temperature. This gives a good idea of how the oil will act in actual work. Furthermore, the oil is given tryouts in the engine, under operation.

If the dealer seems to be pushing some one brand of oil too hard, write the manufacturer.

Don't Rust it; Rather Wreck it

There may be a certain sporty thrill in lighting a match to a hundred-dollar bill, or throwing the same out of a window. When one comes to think of it, such recklessness may be more commendable than the time-honored—or should it be dishonored—custom of letting farm machinery and implements be exposed to rain and rust, and thus hastened toward ruin.

The time of year when this is done is here, the advisers against the practice are with us also; and as usual, if not to as great a degree as when the meaning of economy was less clear, their advice is being disregarded.

Chief Motors Corp. Elects Officers

At the annual meeting of stockholders of the Chief Motors Corp., in Port Huron, Mich., H. J. Martin was elected president; H. S. Erd, vice president; R. E. O'Brien, secretary and treasurer; J. G. Erd and D. J. Johnson, directors. The corporation manufactures kerosene tractor motors, and states it has orders on hand to keep the plant fully busy 18 months.

Tractors Junk Narrow Gauge Road

Except a small trackage near the main plant, the narrow gauge railroad used by the Italian Vineyard Co., Guasti, Cal., has been discarded for tractors, which not only can go where the locomotive could not, but do the work of 12 mules in hauling grapes over soft soil. Also, when harvesting is over they can be used for plowing and cultivating.

Tractor Driven More Than 75,000 Miles

How far one may go, without going far, is shown by the fact that John Somody, in the past six years, has driven an electric industrial tractor over 75,000 miles—in hauling heavy loads about the factories and in the yards of the Goodyear plant in Akron. The machine pussyfoots around on Goodyear tires; and John knows the premises well.

Sensible Way to Remove Carbon

Using heavy fuel and oil is conducive to fouled spark plug points in tractor engines. In cleaning them there is likelihood of disturbing the adjustment between the points or of breaking corroded electrodes. The sensible way to to clean them is with a small wire brush and a little gasoline.

Easy for Tractors, Bad for Roads

Because the Georgia motor vehicle law did not mention tractors, the Secretary of State ruled that they are not subject to the license law for motor vehicles, even if used to pull wagons on highways.

Huge Overseas Type of Tractor Shown

The first exhibit installed at the recent Twin City automobile show in Minneapolis were huge tractors similar to those used in France, and which will be put at work on the farms of Minnesota this year.

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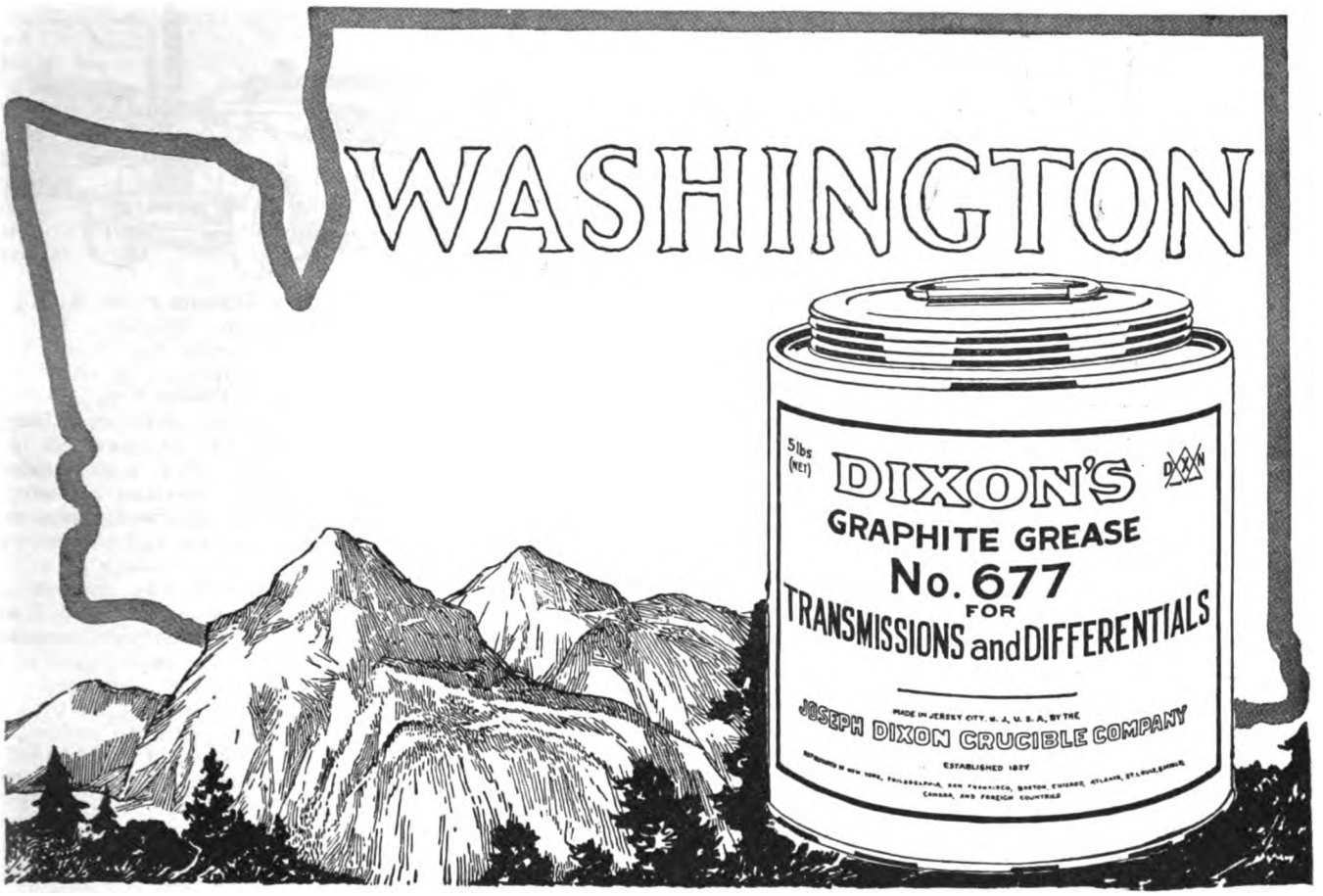

This Is Pretty Strong Evidence

During the last year we have increased our sales on Dixon's Graphite Automobile Lubricants *over one hundred per cent.*

We attribute our success to this line to the *quality* of Dixon's products.

We find that once a customer uses Dixon's Graphite Lubricants, he invariably comes back with repeat orders. We have yet to receive a complaint on your lubricants.

During the coming season we will endeavor to again boost our sales one hundred per cent.

Very truly yours,

KILMER & SONS CO.,
Spokane, Wash.

That's as strong as though we'd written it ourselves—and it's a pretty general survey of the Dixon Standing all over the country.

Write for booklet 47-G

JOSEPH DIXON CRUCIBLE COMPANY
JERSEY CITY, NEW JERSEY
Established 1827

DIXON'S GRAPHITE Transmission and Differential LUBRICANT

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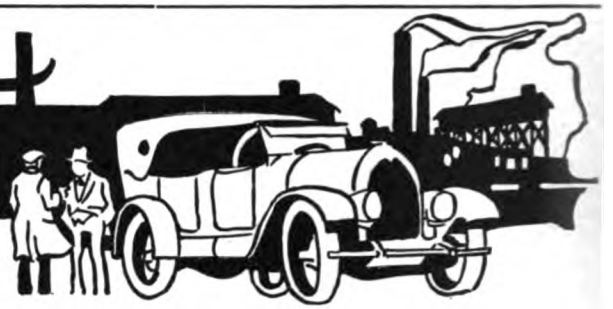
Trade Briefs & Factory Gossip



Trade News Via Detroit.

Walter P. Chrysler, formerly General Motors vice president, now vice president and general manager of the John N. Willys interests, painted an impressionistic picture of the future as he hoped it would be, at a recent dinner given him by citizens of Flint, Mich. Four figures were made prominent in the view—W. C. Durant, president of General Motors; J. Dallas Dort, president of Dort Motor Co.; Charles W. Nash, president of Nash Motors Co., and Mr. Willys. Mr. Chrysler delineated their superlative qualities and the point of his talk was that he hoped to see them make their undertakings mutual.

The outstanding present fact in Detroit is freight car shortage. The normal daily arrival of empties for automobile shipments is more than 100 freight cars, up to 400; but the actual arrivals have been totaling about 35, and as few as 10. It is estimated by E. N. Hodges, Detroit chairman of the N.A.C.C. traffic bureau, that 40 per cent of automobiles sold by Detroit manufacturers are being driven home from the factories. The normal is about 10 per cent. This greatly affects railway revenues, but keeps the automobile business going, and there is anxiety as to the condition when unpaved roads soften up; not only by automobile makers, but the parts and accessories men, and the employes of all. Also, shortage of steel and other materials keeps everyone deeply interested. In this respect early relief is practically assured.

John W. Dietrich has been appointed experimental engineer for Dodge Brothers. He was chief engineer three years for the Republic Motor Truck Co., and was also connected with Federal and Denby.

James A. Braden, of the Standard Parts Co., Cleveland, started the Oldtimers' Club during the New York Show. Veterans of from ten to twenty years in automotive lines are said to be joining by hundreds.

Such is the transportation situation that both passenger cars and motor trucks, ordered and ready for delivery, are accumulating at the factories. Owing to weather conditions, the urge of manufacturers that dealers drive 'em away, in a radius of even 1,000 miles, simply is not functioning. The shipment outlook for several weeks is distinctly gray.

At the annual meeting of the Kalamazoo Motor Corp., Kalamazoo, Mich., its capital stock was increased to $1,000,000.

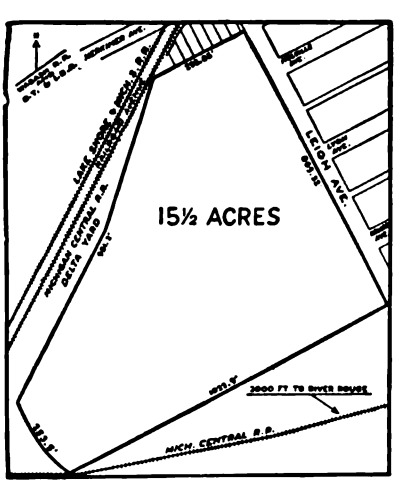
Miller Rubber Gains 60 Per Cent.

The sales volume of the Miller Co., Akron, O., in 1919 was more than 60 per cent over the 1918 mark, exceeding it by approximately $10,000,000, though 1918 exceeded 1917 by $5,000,000. In 1913, when the company began, sales were $1,914,443, and they have practically doubled yearly since. The total was $26,476,211, and that of 1920 is expected to be $40,000,000. The company already is oversold, and its capital stock is being increased from $20,000,000 to $60,000,000. General Sales Manager F. C. Millhoff is opening new factory branches in several cities and adding extensively to present ones. In 1919 branches were established in 10 cities, including El Paso, Tex.; Phoenix, Ariz.; Great Falls, Mont.; Oakland and San Francisco, Cal.; and 12 other cities are under consideration, to help dealers.

* * *

Booklet on 1919 Racing Season.

A vivid description of features of automobile racing—the wonderful timing apparatus, action in the pits, how racing tires are made and the terrific conditions under which they are used, action pictures of all the important races of the 1919 season, and of the racers as well—these and other interesting data are in a booklet issued by the Goodyear Tire & Rubber Co., and will be sent to anyone applying to the company.



NEW SITE FOR KING MOTOR.

What Vice-President W. B. Nesbitt, of the King Motor Car Co., Detroit, says is the most important move in the company's history, is the securing of a 15 acre site in that city for the establishment of new works. The site was obtained by Artemas Ward, of New York, majority stockholder. It is on the west side, east of the River Rouge; is almost completely surrounded by the leading railroads of that section. Trolley facilities are excellent, as is housing in the neighborhood.

Dunlop Tire Returns to U. S.

From Dunlop America, Ltd., 19 West Forty-fourth St., New York, comes news of re-entry in the United States of the interests which founded the pneumatic tire industry. Dunlop America, Ltd., will be operated by an American staff. The board will include a strong American element, as well as some of the chief members of the British company, and will have the benefit of full interchange of patents and processes with the British and other Dunlop companies. It will have the services of an advisory committee constituted from the expert staff of the British organization. Except golf balls, its production will be tires, all high grade cord as to the pneumatics, and the solid tires will be identical in quality with those which, the statement asserts, carried the bulk of the British army transport during the war.

The new company is incorporated and will acquire the rights of the original American Dunlop Tire Co. About 150 acres have been bought at Buffalo and the plant will include all improvements evolved from the Dunlop Company's experience of 30 years. Cord fabric, which will be exclusively used, will be spun, twisted and woven from the raw cotton in a specially designed cotton plant alongside the rubber plant.

To finance the first unit of the new plant, $20,000,000 of stock was issued in England, convertible when the American company was formed. This stock has been selling at a premium of over 100 per cent, in England. Dunlop is the largest tire organization in the world outside this country. It has plants in England, France, Japan, Canada and Australia, and various plantations and cotton mills.

* * *

Stanwood Opens Chicago Branch.

For Western distribution, the Stanwood Rubber Co. has opened a Chicago branch, 1712 South Michigan Ave., with J. H. Greer as manager of the Central Western district. E. C. Merkel becomes Chicago branch manager of the Hardman Rubber Co., subsidiary of the Stanwood.

* * *

Claude Platt Moves Westward.

Claud Platt, who for fourteen years has been with the Fisk Rubber Co. in various capacities, the last being special factory representative, has resigned to enter the retail automobile trade in Chicago, his home city. Mr. Platt carries with him in his new venture the hearty good wishes of the entire Fisk organization.

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The Test of Daily Use

RUSCO Brake Lining and Clutch Facings

THE test of daily use proves the excellence of the Rusco weave. Motorists who once use Rusco Reline with it. They know that it has a grip that is reliable to-day, to-morrow and every day.

Guaranteed For One Year

Profit by Rusco's increasing demand. It makes good-will and bigger business.

The same holds good of **Rusco Top Straps, Tire Straps, Fan Belts, Radiator and Hood Lacings, Anti-Squeak Webbing.**

THE RUSSELL MANUFACTURING CO.

Home Office and Factories

515 Russell Avenue, Middletown, Connecticut

New York, 349 Broadway **Chicago, 1438 Michigan Ave.**
Atlanta, 60 S. Forsyth Street **Detroit, 226 Jefferson Ave., E.**

Western Distributors: JOHN T. ROWNTREE, INC., Los Angeles, Cal.
San Francisco, Cal. Seattle, Wash. Denver, Colo. Salt Lake City, Utah.

Southwestern Representatives: WARE SALES COMPANY, Dallas, Texas

38 Factory Buildings **Established 1830** **25,000 Shuttles**

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Batenberg, Mitchell Chief Engineer.

The appointment of P. J. F. Batenberg, M. E., as chief engineer of the Mitchell Motors Co., Inc., Racine, Wis., signifies, says Advertising Manager George L. Moscovics—who ought to know, being a mechanical wizard himself—the immediate building up of a strong and progressive engineering department, under his guidance, to round out an organization already famous for fine manufacture and body design.

Great significance attaches to the acquirement of Mr. Batenberg at this particular time. It is regarded as the needed finishing touch to plans already indicated by the 1920 Mitchell specifications, in which the main improvements lie in finer materials and better manufacturing methods.

Mr. Batenburg's experience began with the industry. He supplemented his technical education in the best engineering schools of Europe with many years of study and practice in the plants of famous foreign makers. Coming to America in 1910, he has held responsible engineering positions for ten years. During the war he was supervising engineer for the Government, co-ordinating engineering activities of a number of plants on war trucks. With the work in his charge finished, he resigned, devoted the past year to study of American service conditions and design, and thus rounded his experience and became one of the best posted engineers in the country.

* * *

Not Merely Billiards; Tires, Too.

The Brunswick-Balke-Collender Co's plant in Muskegon, Mich., will be expanded to produce four times its present output of tires—i. e., 5000 per day. Some find it hard to realize that this company is not limited to billiards. Its productions include talking machines and a number of further things, and its founders and officials have studied rubber since 1857, when Mr. Collender, before formation of the company, of which he became president, was associated with Michael Phelan, who got a rubber billiard cushion patent. In 1867 Mr. Collender patented his improved cushion.

* * *

Braender 1920 Advertising Planned.

Officials and salesmen of the Braender Tire & Rubber Co. met with Collin Armstrong, Inc., their advertising agents, January 5 at the Advertising Club in New York and discussed selling and advertising plans for 1920—the largest, by far, ever planned by the company, which is in earnest to get, with a maximum of product quality and selling efficiency, its share of business.

* * *

New Ajax Plant at Sandusky.

President Horace DeLisser, of the Ajax Rubber Co., Inc., announces a new Ajax factory to be erected in Sandusky, O., on 90 acres. Production late in 1920 is expected. The company has plants in Trenton, N. J., and Racine, Wis.

M. & A. M. Adds Many More.

The Motor and Accessory Manufacturers' Association has largely increased in membership in the last few months, the full roster now including more than 360 companies, of whom more than 25 have been added since last July. The association is now represented by a field secretary, in which capacity Alexander W. Barber is now traveling in the West.

* * *

The Rise of W. D. Shilts.

When W. D. Shilts came to Akron fourteen years ago in response to an advertisement in a Cleveland paper for a stenographer at Goodyear, little he realized that he was to forsake the teachings of Blackstone for the busy life of commerce. Shilts graduated from college and began the study of law. He had to work to pay his way,

W. D. SHILTS,
Assistant Secretary and Chairman Board of Control, Goodyear Tire & Rubber Co.

so in 1904 he became personal secretary to the manager of the automobile tire department, then turning out 25 Goodyear tires a day. A month ago Shilts was made assistant secretary, becoming one of the company's officials and remaining chairman of the board of control.

* * *

Recapitalizing Dorris Company.

Recapitalization of the Dorris Motor Car Co., St. Louis, means unprecedented enlargement of its activity. It has existed since the early days and has manufactured steadily, with excellent results as to finances and quality of product.

* * *

Waterman Joins Splitdorf.

E. R. Waterman, long associated with E. V. Hartford, Inc., is now Eastern district manager for the Splitdorf Electrical Co., of Newark, N. J.

U. S. Automotive Corp. Formed.

Formation under Delaware laws of the United States Automotive Corp. is announced by Frank B. Ansted, president of the Lexington Motor Co., Connersville, Ind. The capitalization is $10,000,000 of preferred stock and 200,000 shares of no-par-value common. It is a holding company. Its subsidiary companies, which will continue to operate very much as at present and without loss of their corporate identities, are the Lexington Motor Co., Ansted Engineering Co., Connersville Foundry Corp., and Teetor-Hartley Motor Corp. The new plans mean production of a complete line of motor vehicles, and providing vitally important sources for such material units as are not always purchasable on the open market.

Officers of the new organization are: Frank B. Ansted, president; George W. Ansted and Frederic I. Barrows, vice-presidents; James M. Heron, treasurer; LeRoy A. Hanson, secretary. All reside in Connersville, which will be headquarters. The foregoing and the following are directors William B. Ansted, president Central Mfg. Co.; Charles C. Hull, president Rex Mfg Co.; John C. Moore, chief engineer Lexington Motor Co.; Arthur A. Ansted, president Indiana Lamp Co.; Emory Huston, vice president Lexington Motor Co.—all of Connersville; and Elmer J. Hess, director of the Standard Parts Co., Cincinnati, O.

* * *

Cameron Seeking Midwest Location.

Demands for a large production received by the Cameron Motors Corp., of New York, have resulted in the decision to establish a plant in the Middle Western manufacturing field. The Corporation believes that it will be easier to manufacture 10,000 to 15,000 cars in a season in some one of the Middle Western cities than to build half that number in Connecticut. The company is now seeking a location. It has received many inquiries from cities, but will reach no decision until after a careful investigation.

The company will manufacture the Cameron air-cooled motor in large quantities and in various sizes, for general use, and will license other car builders to manufacture the motor for their own use. Similar manufacturing arrangements are to be made for the front and rear axles as used in the Cameron car. The company will supply these units to the Middle Western company for assembly in the complete car, manufacturing them at the Shelton, Conn., and other Connecticut plants.

* * *

Paige Program for 1920.

The recent new-year national announcement of the Paige-Detroit Motor Car Co. was in line with its many months of preparation for double production of passenger cars and motor trucks. In 1919 there were 32,000 orders for cars which could not be filled.

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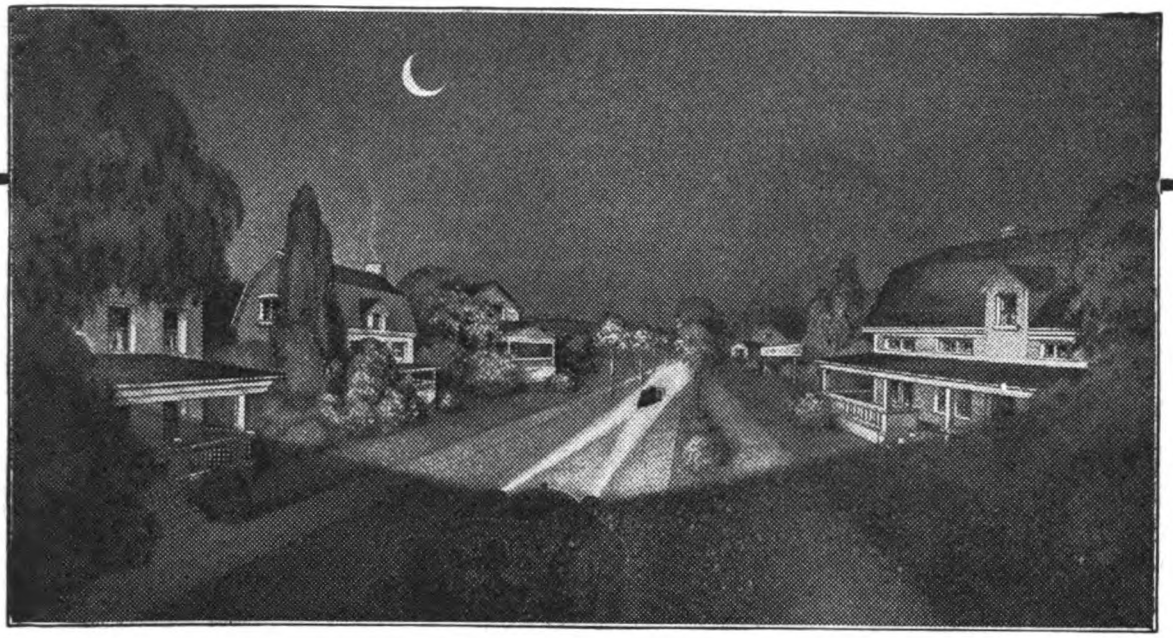


Safely and Legally Dimmed

Yet Giving a Better Driving Light

THE North Star Glare Shield throws a light for a distance of 150 to 200 feet each side of the road, almost at a right angle with the front of the car. This enables the driver to see dangerous obstacles, curves or turns of the road, to read direction sign-posts without the aid of a spot light and without stopping the car. Its penetrating power is wonderful against approaching lights or through fog.

North Star Glare Shield

Gives more light and a safer light, any way you look at it—in front—behind or at the side.

Dims only that part of the light which glares in the face of an approaching driver, allowing the rays from the sides of the reflector to pass through unobstructed and without glare. **Complies with State Laws and Local Ordinances.**

Our Guarantee—The North Star Glare Shield carries our ten day guarantee; your money refunded if not entirely satisfactory.

Easily Attached—The North Star Glare Shield is made in five sizes and will fit any headlight. Nothing complicated—nothing to to get out of order. **Now being used on Police and Government cars.**

Before Attaching

Ask for descriptive circular—Try a Set—
Experience real pleasure in night driving.

Distributors for California

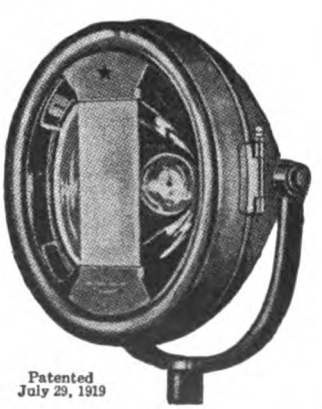
May & Underwood

824 So. Los Angeles St. :: Los Angeles, Cal.

Made by

S. & M. Manufacturing Co.

2332 So. Michigan Ave., Chicago, Ill.



Patented July 29, 1919

How It Looks When Adjusted

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How Lafayette Was Started.

As Vice-President E. C. Howard, of Lafayette Motors Co., tells it, it was like this: On June 2, 1919, D. McCall White spread a clean sheet of drawing paper on a drafting board in his billiard room and set out to design a new automobile that would "get away like a scared rabbit and be as quiet as a sailboat." Mature in judgment, experienced in technique, fired with ambition to better his best, he went on with such certainty and precision that within seven months the result, the Lafayette, was a national show exhibit.

Charles W. Nash, president of the company, and other associates never doubted Mr. White's intention would fall short. They endorsed his new car when it was but a blue-print. The company's entire $4,000,000 of stock was subscribed within four days last summer. Parts and equipment makers, though full of orders, co-operated; wanted to be identified with the new product; even resorted to special methods to meet its specifications, despite the small first-year output ahead.

So many desirable applications for territory are in hand that in at least 19 chief distributing points the problem of selecting representatives will be unusually difficult. These include San Francisco, Los Angeles, Portland, Seattle and other Coast cities.

* * *

Heads Dort Production.

Harry S. McClellan, formerly general superintendent of the Chalmers Motor Co., but for the past two years factory manager for the Buick, has been appointed to have charge of manufacturing for the Dort Motor Co., of Flint, Mich. Harry E. Rogers succeeds him with the Buick.

* * *

Comes the "Elgin Six Autogram."

Issue 1, volume 1, of the "Elgin Six Autogram," published by the Elgin Motor Car Corp., is a lively four-pager in which the corporation's dealers' doings during the New York and Chicago shows are starred and a series of short articles on Elgin features printed. The first article is on overhead valves. New colored stereopticon slides, one showing the Elgin Six touring car and the other the Victory Scout with disc wheel equipment, are announced.

* * *

Miller Rubber Co. Expansion.

Its great growth recently caused the directors of the Miller Rubber Co., Cleveland, to favor refinancing for additional working capital, to meet an oversold condition. Since 1917 sales have increased about 60 per cent, the 1919 total exceeding $26,000,000. The plan favored was to increase the capital stock from $20,500,000 to $60,000,000—$20,000,000 of common and $40,000,000 of 8 per cent cumulative preferred; stockholders to have the right to exchange present first preferred at the call price, $115 and accrued dividend, for the new preferred on attractive terms.

Solves Lamp Glare Problem.

Samuel Arbuckle, sales engineer of the United States Automotive Corp., Connersville, Ind., after two years of intensive study, appears to have solved the headlight glare problem, and in the way urged by the Society of Illuminating Engineers as the ideal solution—by a tilted, movable reflector. His invention is in use in the 2-way lamps on the series "S" cars of the Lexington Motor Co.

The device is semi-automatic, the movable reflectors being operated by vacuum created in the motor by the suction stroke of the pistons. This exhausts the air from a metal bellows connected with the reflectors. An instrument board control, touching which raises or deflects the lights, is also provided. The device meets the spirit of every known anti-glare law. Nothing is left to the driver. The device itself deflects the light to come within the

SAMUEL ARBUCKLE,
Sales Engineer United States Automotive Corporation, Connersville, Ind.

law. If the lights, through neglect, are left in the upward position when the car is at the curb, they are automatically tilted down when the motor stops.

These lamps have passed with a 100 per cent mark the drastic New York anti-glare law, the first scientific law outside of California.

* * *

Drysdale Joins McManus Force.

Widely known for extensive research work, and analysis of publication values during 20 odd years in various lines, K. P. Drysdale has been added to the staff of Theodore F. McManus, Inc., Detroit. For twelve years he was with Cadillac—two years as assistant sales manager, ten as advertising manager. Later he was sales promotion director for the Cleveland Tractor Co.

Personnel of Crow-Elkhart Corp.

Stockholders of the Crow-Elkhart Motor Corp., Elkhart, Ind., elected the following members of the board: M. E. Hoshaw, J. A. Harps, C. S. Drake, R. B. Donaldson, Robert R. Mills, M. F. Miller, C. B. Lair. The new board elected these officers: President, J. A. Harps; vice-presidents, M. E. Hoshaw, C. S. Drake, R. B. Donaldson; secretary and assistant treasurer, D. C. Thomas; treasurer and general manager, R. B. Donaldson. Messrs. Drake, Donaldson and Hoshaw were elected to the executive committee, in direct charge of the business, with Mr. Hoshaw handling production, purchases, sales and service. Plans are for a 5,000 car production, with the entire 1920 output contracted for. Expansion to 10,000 in 1921 is expected.

* * *

Automatic Radiator Shutter Test.

W. L. Daly, sales manager of the Columbia Motors Co., had a count made of cars parked in Detroit's downtown streets on a cold, blustery day. One out of ten was a Columbia Six. The conclusion was that automatically controlled radiator shutters, used on this make only, have come to stay.

* * *

The York Four Is Coming.

The York car, a four of simple construction and designed for extreme service, is to be marketed by the newly formed Industrial Engineering Syndicate, with Benjamin Briscoe as president and Rodolphe Stahl associated with the technical division.

* * *

Goodyear Wage Scale Raised.

The new Goodyear minimum wage of $6 per day for men and $4 for women, and increase of 10 to 12 per cent to piece workers, effective soon, is said to affect about 25,000 employes in Akron and Eastern branches. The Los Angeles plant, it is estimated, will employ about 3500 persons and is expected to be turning out tires by July 1.

* * *

Bayard W. Barton Dies.

Bayard W. Barton, vice-president and general manager of Critchfield & Co., well-known Chicago advertising agency, is dead. Mr. Barton was recognized as an able advertising counselor.

* * *

Prosperous Louisiana Factory.

The Louisiana Motor Car Co., Shreveport, Ia., has had its plant at Cedar Grove in operation since December, is turning out an average of three cars a day and is shipping them chiefly to southeastern points in the Carolinas, Georgia and Alabama. Its pay roll approximates $9000 mouthly and it employs 115 persons. About 500 stockholders attended the recent annual meeting, re-electing all directors. Paul Southerland, of the transportation department, and a director, was elected secretary-treasurer. W. F. French is president and a director. The other directors are M. L. Bath, H. B. Steam. S. R. Elliott, T. H. McGregor, E. C. E. Rhodes, C. W. Parnell, A. M. Rainach.

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Ride in Comfort. Pull, Don't Carry Your Camp.
Lightest Camp Trailer Made. Weight 550 lbs.

KOMFY KAMPING TRAILER

A Revelation in Comfortable Camping.
Housekeeping Accommodations for Four People.

A Camp complete in itself, leaving your car free for use at any time.

By reason of its
Patented and Exclusive Features
The
"KOMFY KAMPING" TRAILER
is beyond question
The Finest Outfit on the Road!

Three years' actual use have proved it a really **practical and satisfactory camp trailer.**

It only weighs 550 pounds. It can be put up or down by one person in five minutes.

It is fully equipped for light housekeeping for four people, with springs and mattresses, electric lights, wood floor, two rooms, stove, table, chairs, dishes, kitchen cabinet, shower bath, etc.

Literature on request.

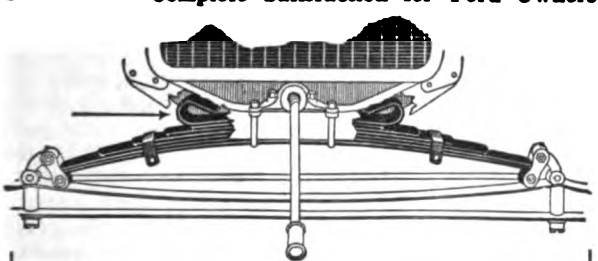
ORDER EARLY
Could not supply the demand last year.

Yours for a Comfortable Vacation,

MARX TRAILER COMPANY
1145 Quincy Street :: Los Angeles, Cal.

DEALERS WANTED

SAVEUR Springs Mean Economy, Comfort, Complete Satisfaction for Ford Owners



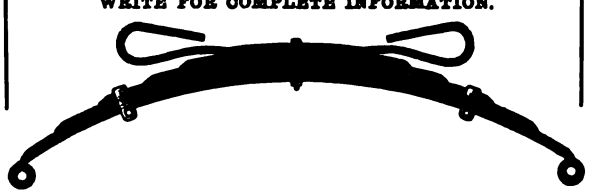
SAVEUR Ford Front Springs Keep The Motor in Alignment

Any Ford car owner, who is riding on the SAVEUR will readily give you the reasons why he equipped his car with this trouble saver.
This remarkable spring eases those inevitable road shocks that every motorist is obliged to experience. The open loops withstand these racking jars and jolts and their resilient strength is ever dependable. The SAVEUR spring means longer Ford front spring service and a decided saving in expense.

PRICE:

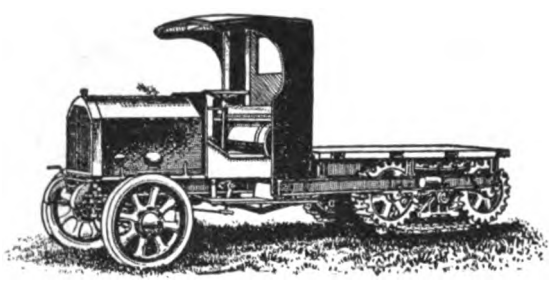
Saveur Ford Front Spring complete.....$6.50
Saveur Open Looped Leaf only..... 2.50

Quickly fitted on any Ford spring.
WRITE FOR COMPLETE INFORMATION.



New Era Spring & Specialty Co.
1190 Hamilton Ave., Grand Rapids, Mich.

Not an Attachment



THE LINN TRACTOR

THE STRONGEST, MOST PRACTICAL AND MOST POWERFUL HAULING MACHINE MADE

B. H. BAIRD
786 Mission Street
SAN FRANCISCO CALIFORNIA

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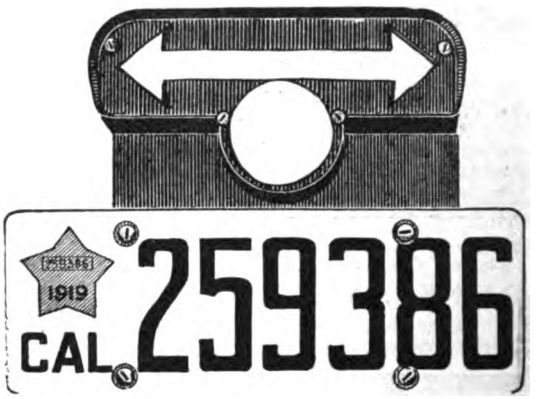
The AUTOMATIC Auto Signal

This is the signal that *automatically* goes back to neutral, and *automatically* turns off the red signal light, after your machine has completed the turn. It does away with one-half the operations of mechanical signals and permits the driver to give undivided attention to the operation of the vehicle. This is the newest absolutely automatic auto signal on the market and has been approved by the State Motor Vehicle Department.

We install these signals on our own premises within one hour and positively guarantee satisfaction.



The Switch that does the Work

Prices: $15 and $20

Newhart-Happesberger Company

Distributors

1243 Sutter Street San Francisco

Telephone Franklin 261

No holes to be bored in your machine, and if not satisfied at the end of 30 days, we will refund your money.

Argonne Has Four Forward Speeds.

The Argonne, made by the Argonne Motor Car Co., Jersey City, N. J., is a car of foreign design, with four forward speeds; is warranted to do 70 miles an hour and run 20 miles to the gallon. It is a four, with monobloc motor, special high speed, 3¼x5⅛. The four forward speeds are independent of motor; transmission is three-point suspension; wheels are wire or disc, optional. The Argonne special body is for two or four passengers. Prices: Special roadster, $4,500; 4-passenger open sport, $4,750; chassis, $4,000. Closed car prices on application.

* * *

Davies With Seelye & Brown.

Maxton R. Davies, vice-president and secretary of the Dunlap-Ward Advertising Co., Cleveland, and former manager of that agency's Detroit office, has returned to Detroit to become vice-president of Seelye & Brown, Inc. He will serve as counsel on automotive advertising and sales. Mr. Davies is well known in the automobile and allied industries, having been prominently identified with the advertising of Chandler, Cleveland and Grant Motor Cars.

MAXTON R. DAVIES,
Vice-President and Secretary Dunlap-Ward Advertising Co.

* * *

Nehrbas Ill; Recovering.

Frederick P. Nehrbas, general manager of the Premier Motor Corp., has had a close call from the "flu," his physicians having given him up on two occasions, but he has pulled through and is now in Miami, Fla., recuperating.

Maibohm Earnings 16 Per Cent.

The plant of the Maibohm Motors Co., in Racine, Wis., burned just before January 1, 1919. In the spring it moved to temporary quarters in Sandusky, O., pending completion of its new factory there. Despite the expense and restricted production, it earned 16 per cent before depreciation and taxes in 1919, the total earnings having been $139,745. Also, sales increased 247 per cent over 1918. The 1920 schedule is for 7,500 cars, all of which have been sold to the Maibohm dealer organization. The assets total $1,052,476, surplus being $54,003. President Maibohm says the company now has successful distributors in practically all important points in this country, as well as all over the world. A $150,000 advertising campaign will be waged this year.

* * *

Goodyear Takes Ford Plant.

During the war a Long Island plant was used by Henry Ford for making gas masks. It has been sold to the Goodyear Tire & Rubber Co., at a price reported to be over $2,000,000.

* * *

Patterson Is Oshkosh Distributor.

L. D. Patterson, Oldsmobile factory representative for some time past, now is district sales manager for the Southwest, with headquarters at Tulsa, Okla., for the Oshkosh Motor Truck Mfg. Co., Oshkosh, Wis.

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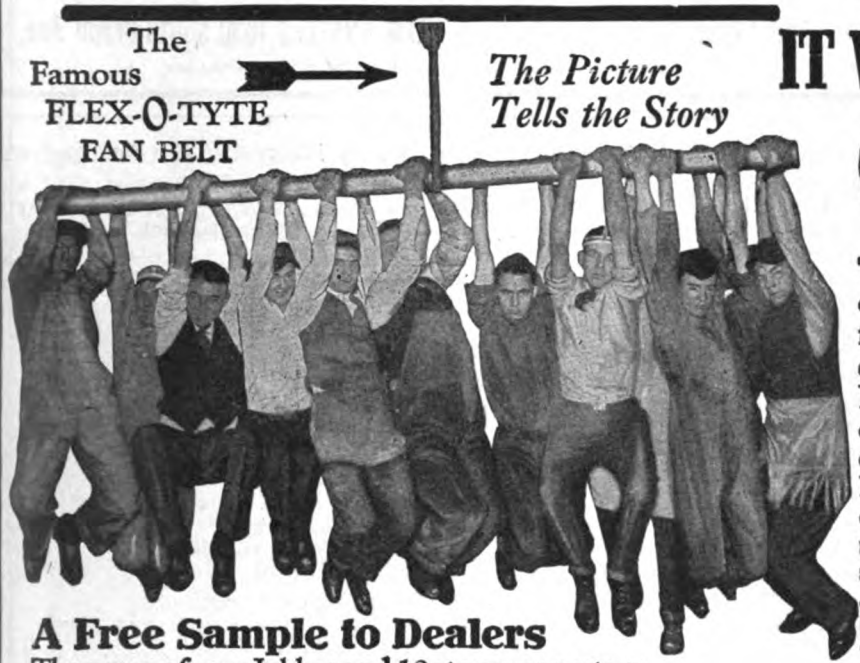
THE WEIGHT WAS OVER A TON

The Famous FLEX-O-TYTE FAN BELT

The Picture Tells the Story



IT WAS THE FAMOUS FLEX-O-TYTE FAN BELT

The strongest, most durable, longest lasting and most satisfactory fan belt made. This is not a mere claim. The famous FLEX-O-TYTE Belt speaks for itself. Built of special Rubber Coated Fabric—wrapped cured. Tougher than leather. OIL, HEAT and WATER-PROOF. No raw edges like the ordinary vulcanized fabric belt, consequently no fabric separation.

A Free Sample to Dealers

The name of your Jobber and 10c to cover postage and packing brings sample belt for late Ford model. Also 32-page Catalog. No obligation on your part.

Dealers—Get Sample

A. J. STEPHENS RUBBER COMPANY

1413 CHESTNUT STREET KANSAS CITY, MISSOURI

Grand Opening of

New Los Angeles Speedway

Saturday afternoon, February 21, 1920

National Championship Event

250 Miles :: $25,000.00 Cash Prizes

World's Greatest Drivers Will Compete

Patronize California's Greatest Amusement and Entertainment Enterprise

Secure Your Reservations Now for Opening Event at

B. H. DYAS CO.

Seventh and Olive Streets, Los Angeles

Los Angeles Speedway Association, 312-314 Investment Building

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SCORED CYLINDERS

Repaired by "Lawrence Patent Process" with Silver-Nickel Alloy, fused electrically. No warping or enlarging of bore. Same piston and rings fit. All work absolutely guaranteed. Reshipped 24 hours after received. Endorsed by all manufacturers. Also burnt and oil scores repaired. Plants in all principal cities.

Established 1862
L. LAWRENCE & CO. SAN FRANCISCO, 116 Hyde St. — LOS ANGELES, 1030 South Grand Ave.

All infringers will be prosecuted to full extent of the law.

Dorris and Astra Merged.

The Dorris Motors Corp., St. Louis, capitalized at $3,000,000, is the result of merging the Dorris Motor Car Co. and Astra Motors Corp. President B. R. Parrott, of Astra, announces purchase of the Dorris assets and good will. The new concern will make Dorris passenger cars and motor trucks in the Dorris plant, and the plant's expansion for Astra cars is planned. Plans for a three-story, 180x200 building are in hand. At present Dorris employs 443 people. This is to be increased to 1,000 by July 1. There are contracts for 1,000 Dorris passenger cars, 1,000 trucks and 2,000 Astra passenger cars; also 3,000 Astras are to be built for export by the Associated Motors Corp., New York.

The Dorris Motor Car Co., organized in 1902, was the oldest automobile manufacturing corporation in Missouri. President Parrott of the new corporation has been in the business 16 years. A. J. Kessinger, vice president of the Newsom Valve Co., is vice president. A. H. Mansfield, general claims attorney of the Missouri Pacific Railway, is treasurer.

* * *

The Dillon Steam Motors Corp.

C. H. Dillon, inventor of a steam motor, is president of the Dillon Steam Motors Corp., recently incorporated at Milan, Mich. W. P. Lamkin, of the Lamkin-Allen plant, in which the motors will be constructed for the trucks and tractors to be built by Dillon, is vice president. W. F. Allen is secretary and treasurer, and directors are Allen C. Johnston, A. G. Forsythe, Frank Draper, C. W. Edwards, A. E. Young and Ernest Denton.

* * *

Bamford Leaves Fulton Co.

W. R. "Chick" Bamford has resigned as factory manager for the Fulton Motor Truck Co., Farmingdale, L. I. Before he went East he was with Hupp Motor Car Co. No news as to his plans.

Monroe's Deal With Ludington.

Frank Monroe, who makes bodies for the Oakland, of Pontiac, Mich., and for the Monroe car, made by the William Small Co., Indianapolis, will also make bodies at Ludington, Mich., for the Nash, of Kenosha. A feature of the latest geographical distribution of Mr. Monroe's energies is a bond issue of $100,000 to be voted by the city of Ludington, the sum to be paid to the Monroe company after it has paid $2,500,000 in wages there. Its body plant in Ludington is to cost $500,000.

* * *

Clark Plant in Battle Creek.

The Clark Equipment Co., of Buchanan, Mich., will build in Battle Creek, continuing its present plant as well. The expansion is to accommodate its growing business in Clark axles, Celfor drills, Clark steel wheels and the Clark Trutractor. The site is 23 acres, west of Battle Creek. There will be two factories, each 1200x160 feet. The idea includes a theater to seat 500.

* * *

Murray Moves to Newark.

The factory equipment of the Murray Motor Car Co., of Newark, N. J., has been moved from Pittsburg to that city, to a new plant on 4½ acres. The production planned is 1500, for which orders are in hand. Only a few minor changes in design will be made. The personnel: President, Hon. Patrick J. Dolan, Newark; vice president, W. P. Cubberley, Reeves-Cubberley Engine Co.; secretary and general counsel, Harry Green; treasurer, Nat Levy; director, Edward Blau; general manager, E. H. Worne.

* * *

New Goodyear Cotton Gins.

Construction of new Goodyear cotton gins will begin soon in Calexico and Calipatria, and probably in El Centro, in the Imperial Valley. The company already is a strong cotton factor in Arizona.

Barley Motor Car Co. Reorganized.

The Barley Motor Car Co., which makes the Roamer, has been completely reorganized and will operate under Michigan laws, succeeding the New York corporation. Fourteen thousand shares of no-par common stock are cancelled and 200,000 shares of common issued at $10 par; 5,000 shares of preferred at $100 are superseded by a similar amount of the same value, $300,000 worth being held in the treasury. Stockholders of the old no-par common stock receive ten new shares for each old one; the preferred is share for share. Practically 100 per cent of all stock was voted for the change. A heavy majority of the stock is held in Kalamazoo.

The 1919 output was about 1500 automobiles, President A. C. Barley states. The 1920 plans are for 4,000 to 5,000, yet "we will not be able to take on any new agencies." There are 700 orders for export in hand. The company now employs 325 hands regularly and these increasing steadily. The payroll may cover 450 workers during the rush season.

* * *

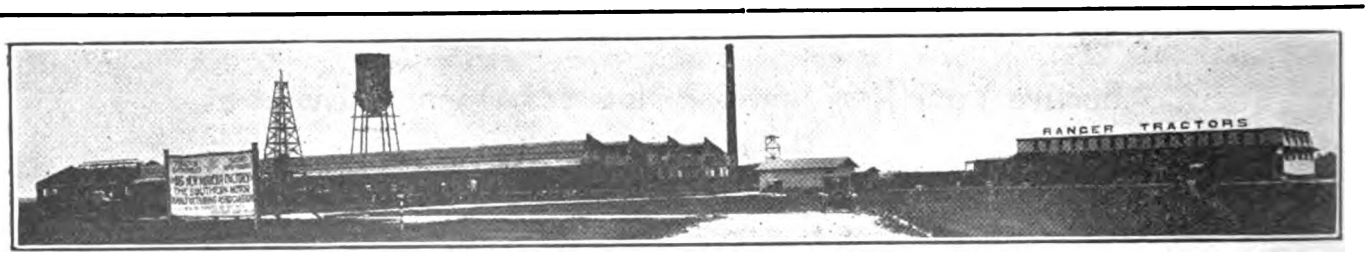
Radiator Company Leases Plant.

For the third time in two years the Hooven Radiator Co., Chicago, recently was compelled to move to get more space. It has leased 54,000 square feet at 410-20 North Western Ave., for ten years at a reported term rental of $200,000. In addition to making combination tubes and radiators, it has bought patents for a flat tube radiator for large trucks and tractors and soon will have equipment for this installed. About $50,000 in equipment is being added.

* * *

Mayer Assistant Sales Manager.

C. H. Mayer, who has been representative on the Pacific Coast for the International India Rubber Corp., South Bend, Ind., has been appointed assistant sales manager. B. F. Wulff is general sales manager.



LARGE NEW FACTORY OF THE SOUTHERN MOTORS MFG. ASSOCIATION, LTD., OF HOUSTON, TEXAS—CLAIMED TO BE THE LARGEST AUTOMOTIVE PLANT IN THE SOUTH.

Two years ago, this establishment, now producing Ranger trucks, tractors, trailers and commercial, was no more than a dream of the future in the minds of the men composing the Southern Motors. Back of it all stands the vision and energies of Jacques E. Blevins, president, now proven as a born organizer. Blevins saw the necessity of manufacturing in the South in the midst of good labor conditions and cheap shipping rates.

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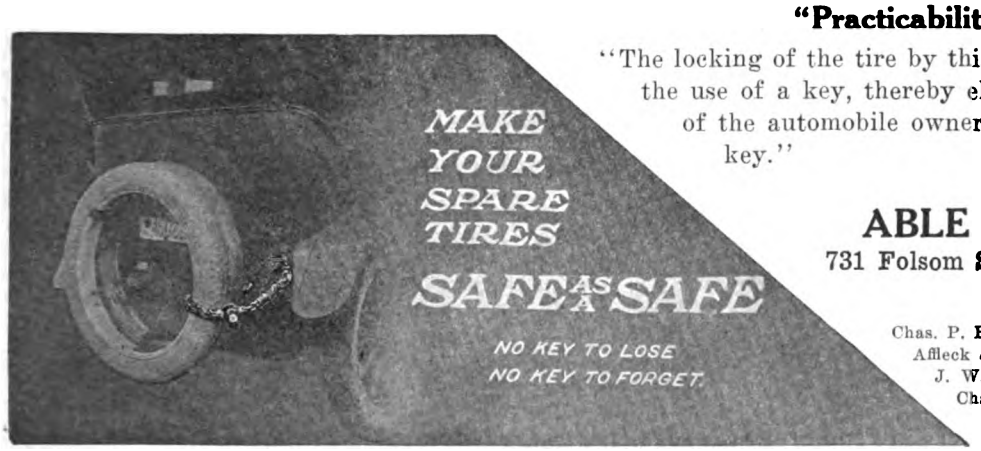
"ABLE" Combination Spare Tire Locks

Some Statements by Underwriters Laboratories

"Theft Resistance Tests"

"1. The steel bar forming the loop resisted all attempts to cut it with a heavy pair of bolt cutters. 2. It was impossible to even start the hack-saw blade in the material or to mark it with a file. 3. No success was had in the attempts to break the lock or loop with a 2-lb. machinist's hammer.



"Practicability"

"The locking of the tire by this device does not require the use of a key, thereby eliminating the possibility of the automobile owner forgetting or losing the key."

MADE BY

ABLE MFG. CO., Inc.

731 Folsom St., San Francisco, Cal.

DISTRIBUTORS:

Chas. P. Boone & Co., 508 Market St., S. F.
Affleck & Coleman, 1106 K St., Sacramento
J. W. Burge, 1912 Telegraph, Oakland
Chas. A. Nichols, 373 S. Main, S. L.

AGENTS WANTED

Portage Tires

All Oversize

Extra rubber and extra fabric, built layer by layer into a tremendous strain-resisting unit—

this means more service.

Better facilities, better workmanship, closer inspection—this means **Portage Quality** — more service.

Portage Tires carry profit advantages for the dealer in addition to the normal profits obtained from ordinary tires.

Write for the Portage Agency proposition.

Factory Branches

745 Mission Street
San Francisco, Cal.

410 West Pico Street
Los Angeles, Cal.

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Pennsylvania Rubber Co. Election.

Stockholders of the Pennsylvania Rubber Co., Jeannette, Pa., elected as directors Herbert DuPuy, H. Wilfred DuPuy, Charles M. DuPuy, Seneca G. Lewis and George W. Daum. The directors elected these officers: Herbert DuPuy, chairman of the board; H. Wilfred DuPuy, president; Charles M. DuPuy, vice president; Seneca G. Lewis, vice president and general manager; George W. Daum, assistant general manager; A. H. Price, treasurer; George W. Siveley, secretary; James Q. Goudie, general sales director; C. G. Morrill, assistant treasurer; H. H. Marmon, purchasing agent.

On February 1 Mr. Lewis completed ten years with the company, and by a new contract he will continue to be general manager five years—an appreciation of his safe but aggressive policy, which he describes as building "from the inside out"; moving men and women up from the ranks as far as possible, and expanding with funds from earnings. He predicts that within five years the more than 200 acres recently purchased, extending from the plant to Lincoln Highway, will be dotted with hundreds of employes' houses.

The company's production of casings is about 50 per cent ahead of the output for the same period last year, and that of Ton Tested Tubes is being doubled.

* * *

Continental to Double Output.

The Continental Motors Corp. showed, at the annual meeting in Richmond, Va., net profits of $3,425,725.10. before deduction of $1,153,637.09 in dividends and premium on preferred and common stock. The assets, $18,732,099.64, include $8,427,810.61, principally located at Detroit and Muskegon; $26,587 in investments; $10,219,443.39 in current assets and $58,258.37 in deferred charges. President Tobin said equipment being installed will double the capacity for producing passenger cars and motor trucks by July 1, permitting assumption of $10,000,000 of additional business. The employes number 7,000. The payroll total for 12 months was $8,124,000.

* * *

Lines Heads Gordon Tire Sales.

M. S. Lines, who for the past two years has been special sales representative in the Eastern states for the Gordon Tire & Rubber Co., Canton, O., has been promoted to the management of sales for that company, succeeding A. W. Senz, who has resigned to become associated with the L. & M. Rubber Co.

* * *

New Officials in Curran-Detroit.

A. F. Thibodeau, vice president of the Detroit Refrigerating Co., has been elected to the board of directors and also second vice president of the Curran-Detroit Radiator Co., of Detroit. W. H. Fahrenback, well-known Cleveland lawyer, was elected first vice president.

Star Rubber Opens Two Depots.

Two new distributing depots have been opened by the Star Rubber Co., Akron, O. One is at 1841 South Wabash Ave., Chicago, the other at 2218-20 Main St., Dallas, Tex. The Chicago depot is in charge of E. A. Peterson, who came from Goodrich. H. D. McGwier has charge in Dallas, having been special factory representative in Texas.

The company's capacity is 1000 tires and tubes per day. Profits for 1919, before deducting excess taxes, were about 12½ per cent on sales volume, which is expected to reach $4,000,000 in 1920. A special stockholders' meeting will be held February 20 to increase the capital stock to $4,000,000.

* * *

Columbia Ready to Double Output.

The Columbia Motors Co., of Detroit, has closed arrangements whereby production of the Columbia Six may be doubled immediately. The former plant of the B. F. Everitt Co. at the junction of Mack Ave. and the Michigan Central Railroad in Detroit has been bought by the Columbia Motors Co.

* * *

Coming Home to Get Dorts.

Ralph Dort, director of Dort sales for Europe, and who has made his headquarters in Paris since his discharge from the army nearly a year ago, is coming home to endeavor to increase the allotment of Dort cars for his field.

H. A. GRUBB,

recently appointed vice-president and acting general manager of the Oldfield Tire Co., Cleveland, O. This action is due to the company's great growth and the inability of Barney Oldfield to cope with the combined duties of president and general manager. With Mr. Grubb, a tire industry executive of ripe experience and wide acquaintance, on the job, President Oldfield can give more time to production and to field sales activities.

Other additions to the Oldfield Company are O. C. Wagner, as credit manager, and C. L. Reely, as advertising manager and assistant sales manager.

Harroun to Borrow $800,000.

Ray Harroun announced toward the end of the Chicago show that Harroun Motors Corp., Wayne, Mich., had arranged for an $800,000 loan. William H. Colvin & Co., Chicago, and Edward S. Moore, who was aero production manager at Buffalo during the war, are associated with the loan. These men are to be added to the directorate of the company, which will start at once on large production. New stock is to be offered to present stockholders immediately. Harroun has many thousands of cars ordered, and demand for delivery was insistent at the Chicago show.

* * *

Nash Men of Ability.

At the annual meeting of Nash Motors Co. directors, W. H. Alford, vice-president, was elected to the board, while C. B. Voorhis, general manager, and J. T. Wilson, assistant manager, were elected vice-presidents. Mr. Alford's duties include financial and other executive work. Mr. Voorhis has been general sales manager. Mr. Wilson has had much responsibility in the factory's operation, and in purchasing and production, under Mr. Nash.

* * *

Studebaker Calls for 4,000 Men.

The production manager of the Studebaker Corp., South Bend, Ind., recently placed a requisition with the employment department for 4,000 workers to be obtained by early May.

* * *

Moto-Meter Honors Tobias, Ryder.

The directors of the Moto-Meter Co., Inc., Long Island City, N. Y., recently elected Jerry J. Tobias equipment sales manager and Samuel E. Ryder equipment engineer. Both are among the concern's oldest staff members having recently visited every passenger car, motor truck and tractor plant in the country.

* * *

Milwaukee Timer Plant Grows.

An additional factory is being built in Milwaukee by the Milwaukee Auto Engine and Supply Co., manufacturing timers for Fords and Guardian bumpers for all makes of cars. The two large plants previously used do not meet the demand. The new one will be a daylight plant of the most modern sawtooth type, with 15,000 feet of floor space. President Zimmerman expects 1,000,000 Milwaukee timers to be turned out this year. These are said to be handled by more than 75 per cent of automobile supply jobbers.

* * *

Parts Service Opens in Cleveland.

The Parts Service, of 5105 Euclid Ave., Cleveland, O., has recently organized to supply parts for motor cars, trucks and tractors. A large stock is being carried of valves, spring bolts and king bolts, manufactured in proper quantity and dimension standards, according to the announcement of O. J. Hinger, general manager.

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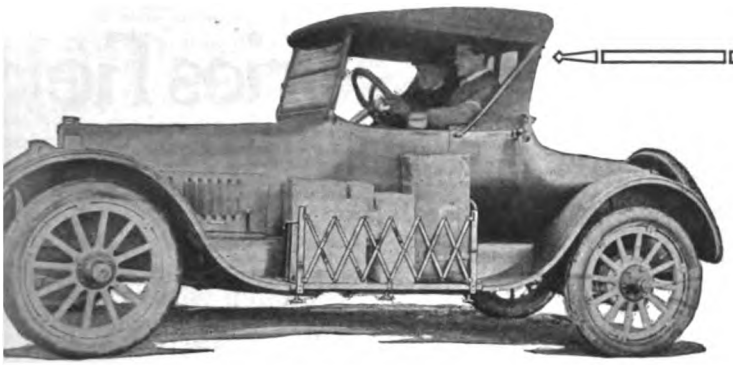


STANDLEY ADJUSTABLE LUGGAGE CARRIER

Every car owner can use this luggage carrier to great advantage many times a year. Folds up compactly under seat, when not in use—opens any length from 10 to 65 inches and forms a basket on the running board when attached. No tools necessary to put on or adjust to any size package. Takes only a moment. A great convenience whenever any baggage or packages are carried and invaluable when touring.

STANDLEY

Rim Tools
Camp Grids
Running Board Supports
Truck Chains for Fords
Radius Rod Supports
Bolt Anchors

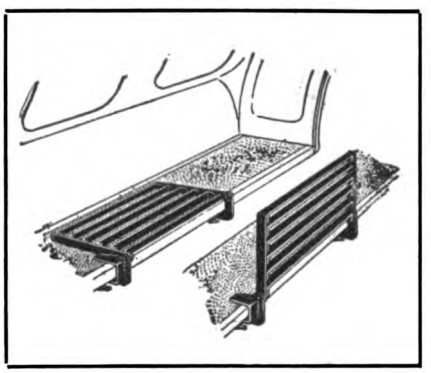
There is a demand for these two accessories everywhere—the safety tread selling strongly during the winter season and the luggage carrier reaching its high point during the touring season. Both are designed and finished to add to the appearance of the car and sell themselves wherever introduced. Stock from your favorite jobber or write us direct.

STANDLEY SKID CHAIN CO.
BOONE, IOWA, U. S. A.
Western Representatives:
GRAF SALES CO., Hearst Bldg., San Francisco.

TWO ACCESSORIES THAT BELONG IN EVERY STOCK

Running Board Safety Tread

Adds to the appearance of any car—prevents slipping on running board and provides a place to scrape mud and snow from the shoes. Easily attached—easily cleaned—keeps dirt and mud out of the car at all times.



High-Grade Automotive Man Will Make California Home

With a Life-time Spent in AUTOMOBILE Manufacturing, the writer has decided once and for all time to make a home in the "LAND OF SUNSHINE AND ROSES"; to write Finis to the story of his life in the East; and to take a permanent lease on a new life.

Accordingly the opportunity is sought to form a connection either with the manufacturing field of the automotive industries or with the distributing or retail end, in Southern California.

Located in a splendid position at present with the B. F. Everitt Co., Detroit, manufacturers and selling agents for the Elbertz Positive Drive Differential, it is the intention to close out all my holdings in the East preparatory to taking up a permanent residence, preferably in or near Los Angeles.

Opportunity to consider propositions is sought. Connections in the past have been as purchasing manager, sales manager, assistant to the president and in other responsible positions. Highest references will be given. The opportunity to be acceptable must be of the highest class.

Correspondence is solicited.

H. D. W. MACKAYE
Care B. F. Everitt Company
294 Jefferson Ave., East,
Detroit, Mich.

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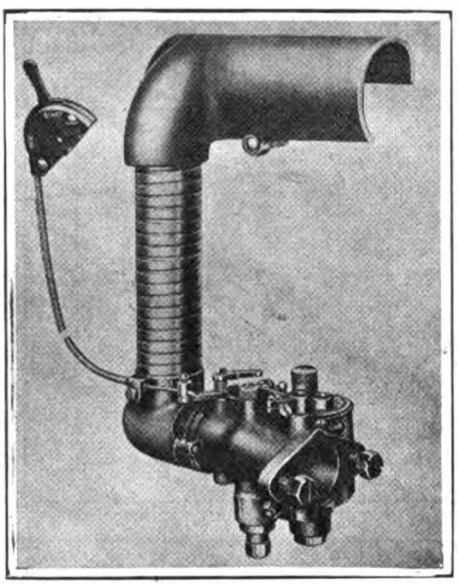
New Things in the Accessories Field

NEW RAYFIELD CARBURETOR FOR FORDS.

The Beneke & Kropf Mfg. Co., manufacturers of Rayfield Carburetors, are presenting an entirely new type Carburetor for Ford cars. The construction is of the



NEW RAYFIELD FORD CARBURETOR.

venturi type, with accelerating well and multiple jet nozzles. Experimental tests covering a period of three years show for this new Rayfield type easy starting, ample power and acceleration, with minimum fuel consumption.

The important features are simplicity of construction, the elimination of all moving parts and the thermostatic air control, the last mentioned device being featured only in the Rayfield. This device provides for the carburetor to operate at the same degree of temperature during all seasons of the year; in other words, it is not necessary to readjust the carburetor for seasonable weather changes.

The carburetor is sold complete with all fittings and replaces the Ford equipment. An adjustment for controlling the carburetor from the dash is provided, along with hot air stove, tubing, manifold gaskets and cap screws. The price is $18 complete.

ELECTRIC METAL MELTER POT.

The General Electric Co., Schenectady, N. Y., has developed a new electrically operated device for melting lead, babbit and similar metals, known as the 25 Pound Electric Metal Melter Bench Type Pot, which is designed to eliminate the loss of time and material, and risks of losses by fire, accidents, etc., which attended the melting of metals in haphazard containers, with a gasoline torch to supply the heat.

This new pot is of very solid, durable construction, having four short legs on the bottom and a flange on the upper rim, so that it may either be stood on a table, or the floor, without fear of upsetting, or lowered into a hole, so as to be flush with the top of the table. It is fitted with a plug and socket fixture that can be attached to any electric light circuit.

The heating element is a coil, wound around the container from top to bottom, and thoroughly insulated from the outside, thus insuring an even distribution of heat through the contents of the pot, and preventing temperature loss due to radiation.

The automatic regulation, which is the principal feature of the device, has been obtained by constructing the heating element of wire which has a positive temperature coefficient. That is to say, that when the temperature of the heating element rises, its resistance rises proportionally, thus limiting the current and, consequently, the heat. When cold metal is put into the container, the initial rise of current is enough to melt it quickly, but, after it is melted, the current is automatically reduced to just enough to keep it molten, but not enough to burn it. This does away with the thick scum of oxidized metal around the top, which was a prominent feature of the old method.

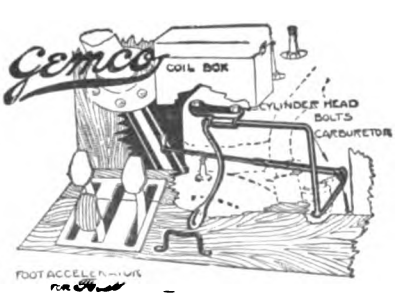
It also permits the operator to go away and leave the pot to itself when necessary without fear of wasting good metal through too much heat, or setting something on fire. With the gasoline torch, the operator had the single alternative of turning down the flame to a safe degree, which usually meant that the metal solidified and had to be melted all over again.

GEMCO FORD FOOT ACCELERATOR.

About the first accessory that the average Ford owner thinks of purchasing is a foot accelerator. They are about the handiest thing that can be put on a Ford, but should be made right so that the driver's foot will not get tired after a long run.

In order to meet the demand for a foot accelerator of this character, the Gemco Mfg. Co., Milwaukee, Wis., is now manufacturing one which is equipped with a foot rest. This is shown in the illustration.

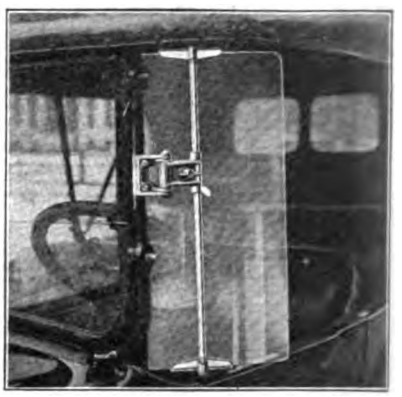
The accelerator itself is attached to the carburetor and may be operated independently of the hand control, and the hand control in turn can be operated independently of the foot control. With a Gemco accelerator a Ford can be handled most efficiently in heavy traffic. Quick starting and perfect control are obtained.



GEMCO FORD FOOT ACCELERATOR.

WINDGUARDS ARE QUICKLY ATTACHED TO ANY CAR.

Windguards provide protection from cold, wind, rain, dirt and dust. They eliminate the need of front curtains, except under severe weather conditions, and



WINDGUARDS ADD TO CAR'S LOOKS.

can be adjusted to any position to improve normal air circulation on hot days. They fit any car—installed in five minutes and do not interfere with the side curtains or operation of a spotlight. The heavy glass with polished edges and rounded corners is held by a single adjustable clamp, and there is no weakening of the glass by boring holes. Windguards are finished in highly polished nickel, and are listed at $25 per pair. They are manufactured by Thomas Andrews Corp., 624 So. Michigan Ave., Chicago.

DOUBLE SPARK BURNS PLUG POINTS CLEAN.

Chain-O'-Spark Plugs are said to be a fundamental novelty, both in mechanical construction and the principle upon which they are built.

With two circular gaps in the series the electric energy is itensified, or "stepped up." Both sparks of the series are effective in firing the gas. The intensified double spark keeps the firing points burned clean of oil and carbon.

A neutral disc is anchored to the insulator. It protects the center recess of the plug against oil thrown by pistons which pump badly.

Chain-O'-Spark Plugs run clean, according to the makers. In 99 out of 100 foul cylinders they entirely eliminate that difficulty. The manufacturers are the Chain-O'-Spark Corp., of the Northwestern Bldg., Minneapolis, Minn.

POWERLOK DIFFERENTIAL USERS.

A list of seventy-four automotive concerns using Powerlok differentials, manufactured by the Powerlok Co., Cleveland, O., includes a number of the most prominent ones in the country. Among western users are the Brown Truck and Trailer Co., San Francisco; Hood Industrial Motors Co., Seattle; Mars Mfg. Co., Seattle. The Powerlok Co., Ltd., London, handles the product abroad.

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"BERLINE" AUTO-TOW-LINE

"Kant Kink—It's Flexible"

Patents Pending

Made of FLEXIBLE steel wire rope with a guaranteed breaking strain of 7000 pounds. Clamp that "stays put" when once adjusted. Complies with State's towing law. Fits in side pocket or under seat cushion.

Price $6.00

"COP-SPOTTER"

Rear View Mirror

"The Whole Road Behind in Front of You"

Trade Marks Registered

Shows you all vehicles on the road behind from curb to curb, through the window in the back of the top.

The "Cop-Spotter" is made of the finest plate glass with ground edges securely mounted in a handsome nickel-plated frame. Attached to any style closed or open car in a few minutes and once adjusted needs no further attention. Vibretion proof.

Price $3.50

For sale by all leading dealers and jobbers. Accept no substitutes. Why pay more? Manufactured only by **BERGER & COMPANY, Black Building, Los Angeles, Calif.**

OPPORTUNITY

DISTRIBUTOR in great Middle Western city, who entered automobile business in 1899 with a capital of $200 and retired in 1916 with a fortune of $250,000, desires to re-enter the automotive field and locate on the Pacific Coast as distributor of passenger cars and motor trucks.

He will be willing to ally himself with established distributor either at main headquarters or in the opening of important distributing quarters in large city in California.

He is thoroughly conversant with every department of the business, and his success in his own business in the past must be evidence that this knowledge is thorough.

Complete and full information regarding this distributor may be had at "Motor West" office. This paper publishes this announcement believing that by so doing there will be secured for the Pacific Coast a man who is certain to achieve success.

Address "OPPORTUNITY"
Care of Motor West

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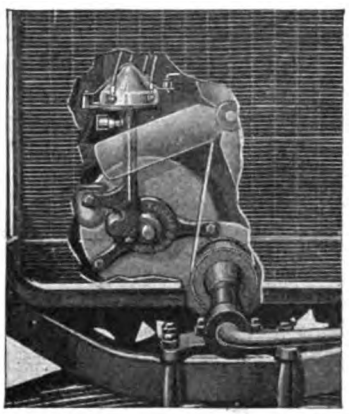
THE THOMAS TIMER ELEVATOR.

This device eliminates ignition trouble because it elevates the timer from the usual position at the end of the crank-shaft, where oil working out of the crank-case soon insulates the timer, thereby causing improper motor operation. It raises the timer to an accessible position where it is protected from mud and water splashing through the



ELIMINATES IGNITION TROUBLE.

radiator, permits overhead wiring and provides an ignition system comparable to those employed on the highest-priced cars. It will fit any Ford car or truck, and can be installed in 20 minutes without special fittings or tools and without removing the radiator. Any timer made to fit a Ford will fit a Thomas Timer Elevator. It has hardened steel machine cut spiral gears and is unconditionally guaranteed. The device is manufactured by the Thomas Andrews Corp., 624 So. Michigan Ave., Chicago, and retails for $6.50.

HUMAN INTEREST IN "GRAPHITE."

"Graphite," issued monthly by the Joseph Dixon Crucible Co., Jersey City, N. J., is not "dry," as the product might imply. It contains many items of economic and general human interest. A recent issue tells that in Tokio the average daily wage is 84 cents. Foreign tailors (cutters) get $1.25; stone masons, $1.12½; painters, sawyers, masons, $1; carpenters (with food), joiners, fitters, 90 cents; typesetters, 62½ cents. Japanese tailors get $15.75 a month, and food.

One of the chief aims of "Graphite" is to advertise the wide use and serviceability of Dixon's Silica-Graphite paint in all climatic circumstances.

AUTOMATIC SIGNAL EASILY INSTALLED.

The Automatic Signal, according to its makers, does away with one-half the operations of mechanical signals and permits the driver to give his entire attention to driving. The switch is positive and the driver is not annoyed by lights or buzzers.

The Linnell, Newhart Co., of San Rafael, Cal., manufacture the Automatic Signal. It mounts on the steering column and its operation is very simple. When desiring to turn to the right the driver simply turns the lever to the right and may forget that he is giving a signal as the warning light on the rear of the car goes out of its own accord when the turn is completed. To the left the operation is the same.

No boring of holes in the car is necessary to install the Automatic Signal. The signal piece, of cast aluminum, attaches to a universal back which fits any bracket on a car. To install, it is necessary only to move the old tail light, put on the signal, tighten the four machine bolts with a small wrench, replace the former tail light wire in the signal socket, put the number plate on the signal and install the signal piece.

The result is a combination signal, tail light and number piece. The switch box, of cast bronze, is placed on the steering column. Only two wires are needed between switch and signal. The Automatic Signal has the approval of the California motor vehicle department. It sells for $20, installation extra.

"BERLINE" AUTO-TOW-LINE.

Berger Co., with offices in the Black Bldg., Los Angeles who are well known in the automotive trade as the manufacturers of the "Cop-Spotter" rear view mirror, are now putting on the market another new product—a steel tow line. The line is sold under the name of the "Berline" Auto-Tow-Line and is meeting with great favor among automobile owners due to the fact of its being very flexible and can be if necessary wound around the rear axle of an automobile, the same as manila rope. The average tow line takes a great deal of room up in an automobile but the manufacturers state this line can be made into a very small coil and placed in the side pocket or under the seat cushion and be forgotten about until needed. The line complies with California's new towing law, this being that in towing cars on the public highway the distance between cars should not be over 17 feet. The tow line is guaranteed by the manufacturers to stand a breaking strain of over 7000 pounds, and comes packed in individual cartons.

MOTOR WEST reaches a larger percentage of dealers than any other automobile publication circulated on the PACIFIC COAST.

J. & B. MFG. CO. PRODUCTS.

The J. & B. Mfg. Co., Pittsfield, Mass., make a valve cage remover for valve-in-head motors which obviously has strength and simplicity. It is claimed to draw the cage out true, without bending the valve stem. It lists at $4, packed in wooden box. Other products include a bushing remover, operated with a few hammer taps; a Ford switch key that looks good; the J. & B. original timer, heavy duty timer, timer rotor and gasoline injector.

THE RUSH SPOKE LOCK.

The Rush Spoke Lock, manufactured by the Thomas Andrews Corp., 624 South Michigan Ave., Chicago, not only fastens to the wheel a huge lump that makes impossible the operation of the car without a loud din, but locks to the spoke, making

RUSH SPOKE LOCK.

it impossible to turn it sidewise and render it ineffective. It is made of only two pieces of malleable iron—heavy construction and is conspicuously finished in red. The lock itself is of a non-pickable Corbin type, and prices range from $7 to $10 according to the model.

DEPENDABLE BRAKE SHOES.

Knowledge that the brakes of his car will respond effectively when called upon in cases of sudden, dire necessity will give the car owner a pleasant tranquillity of mind otherwise impossible. The satisfaction of knowing that all is well with the emergency brake is worth many times the cost of good brakes.

DEPENDABLE BRAKE SHOE.

Dependable Brake Shoes are equipped with a high-grade lining, in fact one of the most expensive on the market, according to the makers. The Shoes are said to be of the most strong and durable construction, being of channel steel, which will not buckle or bend, as may happen with cast steel shoes.

Dependable Brake Shoes sell to car owners at $3.50 per pair; liberal discounts are given to jobbers and dealers. Manufactured by the Hill-Smith Metal Goods Co., Boston, Mass.

STERLING TUBES OF HIGHEST GRADE PURE RUBBER.

Sterling Tubes are good because, for one reason, they are pure gum tubes—a section will float in water, which only the highest quality pure rubber will do.

Every tube of Sterling manufacture is made of a sheet of rubber rolled over upon itself four times, producing a cross-grained lamination of unusual strength and toughness. (In a sheet of rubber there is a definite grain; it will tear easier in one direction than in another—a fact little known.)

When the tube punctures the air comes out of the hole, but the tube is not torn to pieces. Because of quality, thickness and the tough lamination. Sterling tubes are reported to stay "alive" a long time.

Sterling tubes are fairly high priced, because good pure rubber gum is high-priced. Charles A. Warren, of 575 Market St., San Francisco, Cal., is Sterling tire and tube distributor for Northern California.

CHAMPION SPARK PLUGS ABROAD.

An analysis of export shipments of the Champion Spark Plug Co., Toledo, shows its plugs to be in demand in practically every country in the world, embracing a number the location of which would puzzle many—from Iceland to Patagonia, from Australia to Madagascar, they are near at hand. During 1919 the company exported more than 1,000,000 spark plugs and spark plug cleaners. This is more than the average spark plug factory turns out in a year. The company states its plant is the largest of the kind in the world, and that it produced 35,000,000 plugs in 1919 and turns out approximately 60 per cent of all the spark plugs made in the country.

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A rolling stone gathers no moss, but it puts many a tire out of the running. It takes more than a stone, however, to break down the sturdy walls of a Kelly-Springfield.

And now the

KISSEL Custom-Built Six

has as standard equipment

Genuine **Pantasote**

Top Material

The wisdom of their choice is confirmed by the past experience of acknowledged leaders in high grade motor-car building whose cars using Pantasote include

Pierce Arrow	White
Paige Linwood	Cole
Scripps-Booth	Reo Six
Mercer	Cadillac
Columbia	Premier
Locomobile	Hudson
Cunningham	ReVere

Chalmers

Cheaper materials of similar appearance are frequently represented as Pantasote. Look for PANTASOTE label inside the top—it protects you against substitution which is not uncommon.

The Pantasote Company
Bowling Green Building
New York

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STANDLEY RIM TOOL AND OTHER AUTOMOBILE UTILITIES.

The Standley line, made by the Standley Skid Chain Co., Inc., Boone, Ia., includes some well studded conveniences. What is claimed to be the simplest rim tool on the market is easily operated by turnbuckle, weighs two pounds, can be compactly put in the tool box. The safety tread, attached with clamps to the running board, prevents slipping and looks neat. The camp grip, upon which two or more cooking utensils may be placed, folds into a package 1x6x10 inches. The Ford running board support, weighing only 9 pounds, if attached by hook bolts with lock washers and nuts, keeps running boards from sagging, reduces vibration. The Ford radius rod and axle support, attached with steel clamps, prevents the axle from doubling under. It is more substantial than the light tubing. The Standley bolt anchor, for trucks having internal gear axles, when used with the Standley cross chains and rings, means extreme efficiency—chains do not catch in the brake mechanism. The company's very business-like Ford truck chain, and its adjustable luggage carrier, complete a very useful line.

THEY DECREASE DEPRECIATION.

Johnson's "Car Savers," with little effort, help keep the machine in such order that there is little depreciation, and the amateur can use them easily. Millions of cans have been used with satisfaction. The manufacturers, S. C. Johnson & Son, have been in business in Racine, Wis., 38 years. For years their employes have shared their profits, have a straight eight-hour basis with ideal working conditions, and so overhead and price are almost as low as before the war, while personal interests puts quality into the products, among which are prepared wax, paste and liquid; to polish, preserve and protect finish; cleaner, to remove spots, stains, tar, discolorations, etc.; carbon remover, usable in five minutes, during 80 per cent of engine trouble; radiator cement, sealing leaks in from two to ten minutes; Black-Lac, ideal top dressing, quick, permanent, water-proof; Auto-Lak, splendid body varnish, no experience needed; stop-leak oil, which oils springs without tools; the Hastee patch, a quick and permanent repair for tubes and casings; valve grinding compound, which produces a velvet seat.

"ECONOMETER" GOOD FOR LAZY MAN.

On the dash or instrument board, in no more space than is used for the combination odometer and speedometer, is placed the "Econometer." Watch it work. It indicates miles per hour, miles per gallon of fuel, quantity of gas in tank, gas consumed in a year or season, trip mileage, season or year mileage. Six little information bureaus, working automatically. It was exhibited at the New York show. Its makers, A. Stuber and R. T. Thompson, Rochester, N. Y., want to see it made standard equipment, but will sell you one if you wish, through an accessory dealer or garage.

PYROXLIN DEFIES SANDSTORMS.

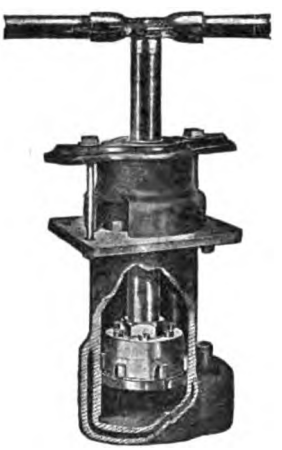
Sandstorms can make an automobile body look like the face of a smallpox victim. It is found that in several recent severe sandstorms in New Mexico and Arizona, a car driven by Sam Parris, well known demonstrator was not even scratched, due, it is believed, to the Pyroxylin-coated fabric finish cushioning the impact.

STORM CYLINDER REBORING MACHINE.

The accompanying illustration shows the Storm Cylinder Reboring Equipment, manufactured by the Storm Mfg. Co., Minneapolis, Minn., in operation on a cylinder block. This equipment is admirably suited to the needs of the average garage. It offers a business-getting and money-making opportunity for the wide-awake repair man. The addition of this machine to ordinary shop equipment enables him to make old motors practically as good as new. He can quickly rebore and fit them as true and tight as when new, and the motor will be more powerful than ever before. Thus he is enabled to do complete overhauling and rebuilding in his own shop without sending the most important and profitable part of the work out to others.

By doing this work himself, he not only retains the profit for himself, but he is more certain of giving satisfactory service, avoiding delay and bringing additional business to his shop. No branch of the motor repair business offers greater opportunity and profit than cylinder reboring.

The Storm machines are made in varied capacities, ranging from 2⅝ inch to 5 inch. The equipment is simple, speedy and accurate. Once through rebores and finishes each cylinder to the desired size.



MAKES CYLINDER REBORING EASY.

It means a greater saving of time and makes it possible to rebore all cylinders of a motor, or several motors, to exactly the same size without making several tedious adjustments for each cylinder. The cutters are universally adjustable and equipment is furnished for adapting it for the different size cylinders. It is regularly equipped for operating by hand. Drill press attachments are furnished, if desired.

KELLY METAL-TO-METAL BRAKES.

The use of metal-to-metal brakes bids fair to be strongly stimulated by installation of an enlarged plant by the Kelly Metals Co. in Los Angeles. Kelly metal, so-called—a remarkable heat and wear resisting amalgamation of copper and lead, classified by Government tests as between the babbitt series and bronze series—is now made in both Los Angeles and Detroit. Numerous tests in actual practice date back to its use by De Palma in 1914, and include severe use on hundreds of automobiles and motor trucks, under all conditions. The metal is the invention of W. H. Kelly, former chief engineer of the United States Transport Service, and for a number of years retired and a resident of Los Angeles.

A RED ARROW POINTS DIRECTION OF TURN.

The new Auto Auto Signal distributed by Newhart-Happensberger Co. of San Francisco, Cal., has as its principal feature a patented hand switch, working in oil, attached to the steering post, which flashes a red arrow—right or left—above the tail light.

After the machine completes the turn the switch automatically returns to its neutral position. At the same time the red signal arrow is extinguished without any attention from the driver.

According to Alfred Newhart, of the Newhart-Happensberger Co., the demand for their product is already such that the factory cannot meet incoming orders with their present manufacturing facilities. Extensive machinery has been contracted for and the Automatic Auto Signal will be produced on a large scale.

RICHARD'S IRREVERSIBLE GEAR.

Richard's Irreversible Steering Gear, which is distributed by the Auto Appliance Agency, California branch, 240 East Miner Ave., Stockton, Cal., is designed for Ford owners desiring the same safety, comfort and economy as those using higher priced cars. Its object is to prevent spills caused by the wheel turning in one's hands on striking obstacles. It is claimed it prevents front wheels going past center, even in short turns. It absorbs shocks, stops vibration, rattling of spindle joints, and saves tires by stopping wobbling of wheels. It is a worm gear. It is sold on ten days' trial. The price is $20, including installation. Agents are wanted.

OUTGROWTH OF ROSS GEAR & TOOL CO.

The newly organized Fairfield Mfg. Co., Lafayette, Ind., is an outgrowth of the Ross Gear & Tool Co. It will make differentials and bevel gears for automobiles. The officers are D. L. Ross, president; J. W. DeCou, vice-president and general manager; Edward A. Ross, secretary; George C. Kumming, treasurer; David E. Ross, consulting engineer. The Ross company, maker of Ross steering gears, has also made the parts which now will be made by the new company, owing to greatly increased demand for the Ross gears, which were being used by 150 motor truck manufacturers in November.

General Manager DeCou has been Ross factory manager. Earlier he was with the Smith Form-a-Truck Co., and for 18 years with the Thos. B. Jeffery Co., first as purchasing agent, then as factory manager. The others, as well, have been with the Ross company.

FAIRBANKS TO DISTRIBUTE LINCOLN ELECTRIC MOTORS.

A contract between the Fairbanks Co. and the Lincoln Electric Co., of Cleveland, O., gives Fairbanks the exclusive distribution of Lincoln electric motors for industrial applications. This line includes alternating current motors for two-phase and three-phase circuits, in capacities from ½ to 500 horsepower, for all commercial voltages and frequencies, and direct current motors from ½ to 150 horsepower. The Fairbanks Co. will also co-operate with the various Lincoln district offices in connection with the sale of the manufacturer's other products.

The Lincoln Electric Co. is said to be the third largest manufacturer of industrial electric motors in this country, and the quality of its goods, backed up with careful service, has given it a solid deputation throughout its fields.

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Every Shop Needs

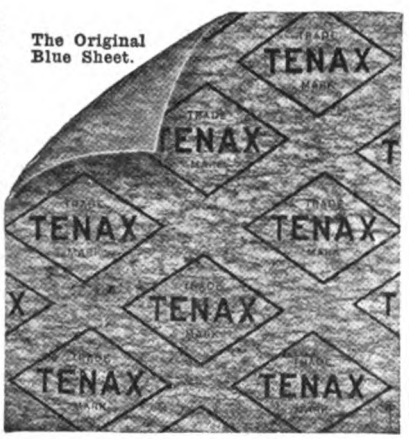
TRADE

TENAX

MARK

Compressed Asbestos Sheet Packing

Right now—when shop work is pressing, when costs are so high—you need **TENAX**. Let **TENAX** increase the efficiency of your own shop. Use "The Old Standby"—the reliable general purpose sheet. Preferred by expert engineers and bought by the name "**TENAX**" for twenty years.



The Original Blue Sheet.

TENAX comes in sheet 50x50 inches, 1/32 to 1/8 inch thickness, inclusive. Made also in 1/64 inch thickness, black graphited sheet only. We die cut gaskets to any shape on order. For quotations in this work send blue prints or templates.

A Saver of Help, Time and Costs

Saves because it makes repair work **permanent.** When **TENAX** is used the job will last for years. Saves extra help and time and costs that result from use of inferior packings.

TENAX cannot squeeze out, rot, burn or melt. Your men can save money for you using **TENAX**—they can pack confidently with **TENAX** whether it is to be subjected to cylinder explosions, gas engine exhausts, acid, alkali, ammonia, superheated steam or any other active agent. **TENAX** requires no following up. It is **permanent.** Pack with **TENAX** and forget the joint forever.

Reasonable In Price

There is hardly a limit to the price men will pay for absolute reliability, yet **TENAX** is **reasonable.** It is surprisingly economical. Thousands of shops use it every day. Let it help you reduce costs.

Write In Now. Get Prices.

Ask your jobber for details, but if he cannot supply you now, use the coupon and let us quote you prices. Examine the small sample at our expense—or order a few sheets of **TENAX** now for your trial.

Jobbers: If you haven't already arranged to handle **TENAX** for your trade, write us **NOW!** Help them enjoy the saving and convenience of this wonderful sheet.

Use This Coupon!

ADVANCE PACKING & SUPPLY CO.

17 North Franklin St., Chicago, Ill.

ALLIED INDUSTRIES, INC.,
Pacific Coast Representatives
282 Minna St., San Francisco, Cal.; 340 Azusa St., Los Angeles, Cal.; 1252 First Ave., So. Seattle, Wash.

ADVANCE PACKING & SUPPLY CO.,
17 N. Franklin St., Chicago, Ill.

Gentlemen—Please send us prices, samples and description of TENAX Compressed Asbestos Sheet Packing.

Name .....
Address .....
City .....
Am Dealer.....Jobber
My Jobber is.....
Address .....
(Please fill this in.)

ACME

Do Figures Mean Anything to You?

Eight hundred out of every one thousand Acmes were bought because owners had confidence in Acme proved units and Acme proved construction. They knew that the industry's leading units as selected and assembled by Acme engineers gave them definite assurance of complete satisfaction in service and performance. Over 990 out of every 1000 owners of Acmes in service say that Acme is superior—and the number of owners who will add Acmes to their fleets shows an amazing high percentage.

We Have the Facts

Every Acme truck in service has been investigated. We know that Acme proved units and Acme proved construction have placed truck purchasing on a new basis. They offer to progressive dealers known standards upon which to build an increasing and profitable truck connection.

Acme dealers not only have a truck that stands out conspicuously in the entire field in service and performance—but they are armed with facts about Acme that make the Acme franchise one of the most desirable of the times. Write for catalog and information on our proposition.

Built in 1, 1½, 2, 3½ and 5-Ton Models

Bodies Built in Acme Factories

Acme Motor Truck Company

212 Mitchell Street **Cadillac, Mich.**

The Seal of Dependable Performance

ACME THE TRUCK OF PROVED UNITS

Trade Mark Registered

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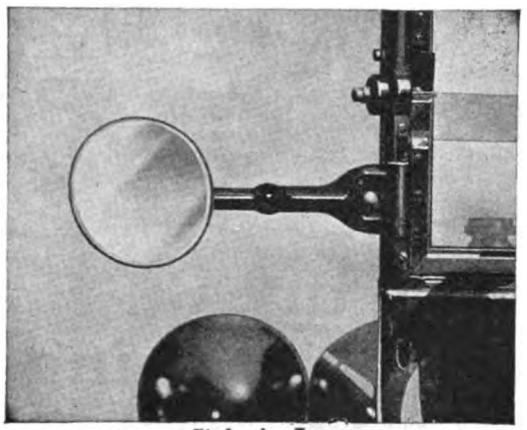
Hindview Auto Mirrors



Style A—Long

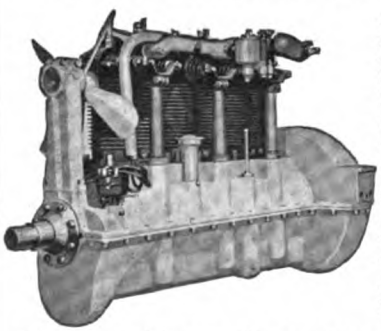
The "Hindview" Auto Mirror prevents accidents by enabling the driver to keep an eye on the rear traffic without losing sight of the road ahead. The Ball Joint allows immediate adjustment to any desired angle without the use of any tool.

Write for descriptive folder No. 19 showing complete line.

A. E. MOHRIG, 340 Phelan Bldg., San Francisco, Cal.
Pacific Coast Representative

KALES STAMPING COMPANY
444 West Lafayette Blvd. DETROIT, MICH.

DIRECT **CAMERON MOTOR** AIR COOLED



The Cameron Air Cooled Motor is the last word in engine refinement. Engine temperature is constant in efficiency, regardless of all conditions. Cars so equipped are freed from the inconstant and unsatisfactory water cooling system with its steam generating, freezing and leaking evils.

Cameron Motors Corp. 2 Columbus Circle, New York City

MOTOR WEST

reaches a larger percentage of dealers than any automobile publication circulated on the

PACIFIC COAST

Western Trade Notes

San Francisco, Cal.—The Acme Auto Supply Co. has been formed here, with $10,000 capital stock, by Charles B. Kaufman, David W. Lee and Charles A. Lee.—Arthur E. Raine has resigned as assistant retail manager of the White Co. to manage a belting factory in Oakland.—P. J. Peterson has bought the interest of I. C. Armstrong in the American Vulcanizing Co.—The Pacific Motors Corp., distributor of King Eight cars, has been authorized to sell 300 shares of its capital stock to Stephen I. Kux, A. W. Young and E. C. Frank.—James Hutton has opened a garage and accessories establishment at 657 Sacramento St.—The Williams Motor Co., capital stock $100,000, has been formed by John H. Williams, Henry O. Harrison and James W. McAllister.—Anton Siri & Co. will open a modern garage and repair business on Bush St. near Webster.

San Jose, Cal.—The Garden City Implement & Vehicle Co. has been authorized to sell 300 shares of capital stock, par value $50 a share, to present stockholders for cash, to finance the opening of a branch in Hollister for selling farm tractors and implements.

San Rafael, Cal.—Smith & Davis have taken the Dodge car agency here.

Santa Rosa, Cal.—H. N. Dickey has bought the interest of S. Johns in the Turner Motor Car Co., handling American Beauty Six and Chalmers cars and Winther trucks; R. S. Turner retains his interest.

Benicia, Cal.—The Benicia Garage will move to a fine new building being erected at First and J Sts.

Watsonville, Cal.—Dan F. Loddy has taken the Essex and Hudson agencies.—Otto Wicklein, of the Central Garage, will have an addition erected, enlarging his garage by 6,000 square feet.

San Diego, Cal.—Carlson & Simpson, county distributors for Exide batteries, Klaxon horns and Delco and Remy electric systems, have moved to new quarters at Union and C Sts.—The Newquist Ignition & Battery Works has opened at 1360 Fifth St. as Vesta battery distributors.—C. A. Gustafson has opened an automobile top business at 217 B St.—E. E. Roberts, used car dealer, has opened a painting department at 1152 First St.—The Tioga Supply House has added the Goodyear line.—R. R. O'Neill has become local dealer for Diamond T trucks at 1059 India St.

Escondido, Cal.—Paul and June Chaffee have bought the Escondido Garage.

Bell, Cal.—A fine new building is being erected for the Triangle Garage at Bear St. and Baker Ave.; the company which will operate it is composed of Albert C. Quast, W. F. Beck and C. H. Tapscott; their new home is of frame construction, 40x60 square feet, with a gas and oil station built in front; all three are experienced mechanics, doing first-class work on any make of car.

Indio, Cal.—Increasing business has made necessary the building of a large addition to the Coachella Garage.

Brawley, Cal.—A fine new building has been built at Sixth and E Sts. for the Valley Welding Works.

El Centro, Cal.—The Imperial General Sales Co. has opened here with the Essex car agency.

Oceanside, Cal.—F. B. Borden has bought the Highway Garage from Jack Davis.

Hanford, Cal.—The Prough Brothers Garage will be enlarged with a steel and concrete garage.

Modesto, Cal.—The H. W. Thompson Co. has taken the agencies for Westcott cars and Commerce trucks, locating with the Fisk & Davis Garage.

Oakland, Cal.—The Tuller Auto Co. has taken the King Eight and Auburn Six agencies for Alameda and Contra Costa counties.—Jack Croter has opened a Chevrolet sub-agency at 3708 San Pablo Ave.—P. R. Tourette has been promoted to service manager of the Goodyear Tire Co. here.—The Chevrolet assembling branch here will build 26,600 of the total 240,000 Chevrolets to be turned out this year; in the next seven months the Coast plant will build 19,000 cars.—The Hirsch Motor Co., of San Francisco, has opened a branch office at 227 Fourteenth St. here, Max Wiltenstein, manager.

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"The Freight Car of the Highways"

Unfailing Performance

TOWER TRUCK
STRENGTH + SERVICE

Unfailing Performance

The Service Is Built-In

After comparison and analysis, Tower Trucks become the logical choice. Uninterrupted performance and service at an uncommonly low ton-mile cost has led discriminating truck buyers to acknowledge the Tower as the motor truck of GREATEST UTILITY.

The Tower is built in 1½, 2½ and 3½-ton carrying capacities.

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DETROIT

TOWER MOTOR TRUCK CO.
GREENVILLE :: MICHIGAN

Think this over!
The strength of a chain only equals its weakest link and the best engine or machine built is useless if a vital nut jars loose.

DRAKE LOCK-NUTS
TRADE MARK REGISTERED U.S. PAT. OFF.

"NEVER JAR LOOSE"

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Standard equipment covering vital points by many of the most careful manufacturers.
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Specify on all your new equipment—

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Cleveland, Ohio (*Plant*) San Francisco, Cal.

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PAT. NOV. 21 1916

—The only 100% efficient Piston Ring made. Conforms to the worn and "out of round" cylinder and does its best work where no other piston ring, either patent or otherwise, is designed to work.

Saves Oil and Gas **Saves Time and Trouble** **Saves Re-boring Cylinders**

The demonstration that we make is the most convincing performance that was ever made by a manufacturer. See it at the San Francisco Auto Show, Booth "C," or call at the nearest sales branch and ask the men in charge to demonstrate.

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MOTOR TRUCK MANUFACTURERS
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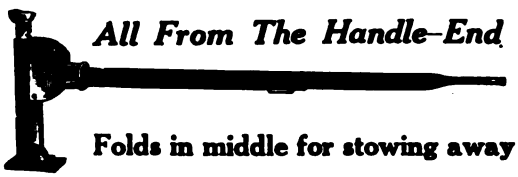
Lane's H.-C. Auto Jack

Is Placed on Handle and Pushed Under Car

PLACED OPERATED REVERSED WITHDRAWN



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Folds in middle for stowing away

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LOS ANGELES 601 Higgins Bldg.
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We have 2 Buildings with 3 floor each devoted entirely to Show Decorations

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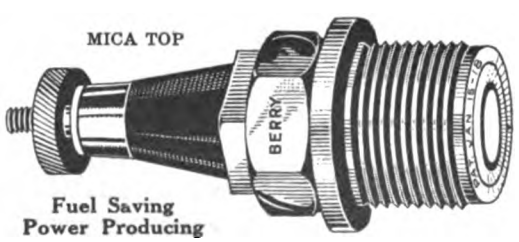
350 Hayes St. San Francisco

BERRY SPARK PLUG



Fuel Saving
Power Producing

No points to adjust or burn off. No porcelains to break.

FRANCIS-STOLL COMPANY
1235 Van Ness Avenue, San Francisco, California
Territory for Dealers and Agents

Los Angeles, Cal.—The George W. Eno Rubber Co. will have a new factory built for it to accommodate expanding business at Slauson and Boyle Aves., costing $70,000.—The Hood tire agency has been taken by the Winchell-Merrill Co.—The Seager, Maginnis, Clark Co. has been incorporated for $150,000, $60,000 subscribed, by S. F. Seager, E. A. Maginnis and D. W. Clark.—The Lord Motor Car Co. will have a one-story brick building erected for it at Sixteenth and Figueroa Sts.—Warner Motors, Inc., has been formed for $50,000, $20,000 subscribed, by L. E. Warner, A. Spangenthal and E. B. Spangenthal.—The L. A. Automobile Engineering Co., capital stock $50,000, has been formed by John Robinson, G. A. Vedder and H. E. Vedder.

Pomona, Cal.—The A. A. Peterson Co., used car firm of Los Angeles, will open a branch here.

Upland, Cal.—W. F. Cooper has bought his partner's interest in the Tenth St. Garage, Herbert Yetter withdrawing from the firm.

Redlands, Cal.—The W. K. Stoddart Co., Grant and Briscoe car dealer, has opened sales rooms at 614-16 Orange St.—W. L. Thornquist has opened a tire, accessory and vulcanizing shop at Fourth and Citrus Sts.

Riverside, Cal.—Williams Brothers & Greene have opened a modern repair shop at Ninth and Orange Sts.—The Mills Tire Co. has moved to a new building on W. Eighth St.—Corn & Beeson have taken the Gates Half-Sole and Fisk tire lines.—The Parker Garage has moved to much larger quarters on W. Tenth St.—Theodore Crossley has moved to new sales rooms at Eleventh and Main Sts., handling Hudson and Mitchell cars.

Oxnard, Cal.—Green, Thompson & Co., Stutz, Chalmers and Hupmobile dealers, will have a new building erected on Saviers St.

Westmoreland, Cal.—The Main St. Garage has been opened here in fine new quarters by R. Coffee, J. H. Wilson and S. F. Sheehan.

Santa Barbara, Cal.—The Arlington Garage has been bought from Joseph F. Tapie by Louis Tapie and W. H. Carswell.

Pendleton, Ore.—The Blue Mountain Motor Co. has taken the Elgin Six agency.

Albany, Ore.—Getz & Grout, handling Franklin and Scripps-Booth cars for the upper Willamette River valley, have bought the Pacific Garage here under the name of Willamette Motor Car Co.; Jones & Geil, former tenants, have moved to the recent Murphy Motor Co. quarters.

Forest Grove, Ore.—The Wiles Automobile Co. has been incorporated for $25,000 by Joseph A. Wiles, Paul Abraham and A. H. Camanada.

Vancouver, Wash.—G. H. Wilde, who recently occupied a new $10,000 garage, has taken the Clarke county agency for Garford trucks, of which he has contracted to sell $45,000 worth.

Kelso, Wash.—The handsome Kelso Garage has been completed and occupied; it is of brick and tile and contains 7,500 square feet.

Spokane, Wash.—W. H. Heylman, former John Doran Co. manager, has been made manager of the downtown branch office of the Washington Tire & Rubber Co., of this city.—The Moore & Ireland Motor Co., capital $10,000, has been formed by H. P. Moore, S. G. Moore and V. G. Ireland.

Bellingham, Wash.—The Hess Motor Co., Mack and Commerce truck dealers for Skagit county, has been located at 300 Prospect St. by C. M. Hess and W. A. Roper.

Edmonds, Wash.—Kelly Brothers Garage has been incorporated for $10,000 by Orville C. Kelly, T. C. Kelly and Dolly Kelly.

Miami, Ariz.—F. M. Eisenhour has taken the Gila county agency for Essex and Hudson cars.

Somerton, Ariz.—Carl Carlton, of Marbel's Garage, has taken the agency for the Detroit battery and Disco products.

Cut Bank, Mont.—E. C. Clapper has taken over the Central Garage from Earl Haulman.

Riverton, Ida.—The Teton Auto Co. has been formed here, taking over the City Garage from George Moreau; it is composed of Ralph G. Schaefer, Mrs. Ralph G. Schaefer and Gene Griffith.

Lindsay, Cal.—The Garman Vulcanizing Works has been bought by C. W. Morrill from Harley C. Jessup.

Bishop, Cal.—A new concrete garage, costing $30,000, will be built here for Watterson Brothers on N. Main St.—The Smith Auto Co. will erect a fireproof garage for its business.

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"NO-LEAK-O" Oil Sealing Piston Ring

Nearly every user of motor equipment understands fully that the efficient and economical operation of a gas engine depends in a large measure on the ability of the rings in the piston to conserve the full force of the explosion for the piston drive. If power or gas can escape past the piston rings, so can oil, and the result is lowered power, increased carbon deposits and fuel waste. Leaky piston rings often result in many complications, which afterward are generally spoken of as "engine troubles."

The cause of such leakage is not due so much to defects in the piston ring as in the shrinkage or warping of the cylinder walls. When this shrinkage takes place the piston ring cannot conform to the depressions or warped places in the walls. The pressure of explosion, vacuum and other forces breaks the seal of oil as the rings pass over these spots, and the gas as well as oil escapes.

This undesirable feature of gas engine operation has seen the introduction of special piston rings, designed to prevent the escape of gas or oil in the cylinder chamber even when the cylinder walls are depressed or worn in spots. One such piston ring, as shown in the accompanying illustration, is made in one piece under a new process, by which an even tension is secured on the cylinder walls. A groove is cut around the face of the ring at right angle to its face, sloping at an angle of about 45 degrees. As the piston moves up and down the oil in this groove pulsates, providing a film of oil between the ring and the cylinder wall, regardless of warped or worn places on the cylinder wall. Gas cannot escape between the moving piston and the wall and the lubrication is perfected without waste or formation of damaging carbon deposits. The ring is said to restore the power in any used engine where the cylinders are not scored.

Position of "NO-LEAK-O" Piston Rings, Showing Grooves for Oil.

In installing these rings on a piston, it is recommended that the top ring be placed with the groove part up, as shown at letter A in the illustration. The coal oil in the gasoline, in being forced down, is trapped in the groove, and on the power stroke this oil is drawn out into the heated firing chamber. It there is exploded or goes into the exhaust. It is thus kept out of the lubrication in the oil pit, where it would ruin or greatly reduce the efficiency of the lubricant.

NO-LEAK-O PISTON RING CO., 824 W. North Ave., Baltimore, Md.

CLYDESDALE MOTOR TRUCKS

The "Driver Under the Hood," Clydesdale's automatic controller, is not an ordinary governor. It automatically and skillfully regulates the flow of power to immediately meet every changing road or load condition. It keeps the speed constant, prevents racing of the motor and clashing of gears.

1 to 5 Tons Net Load

The Clydesdale Motor Truck Company
CLYDE, OHIO

PARAB-O-LIGHT

"The Lens That's Right"

Tested and Approved in California.

The lens that conserves the energy from the storage battery by producing a perfect driving light when used with bulbs of 15 to 20 C. P.

Prices: $3.25 to $4.25 per pair.

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PACIFIC COAST DISTRIBUTOR

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MOTOR WEST

Reaches a larger percentage of dealers than any automobile publication circulated on the

PACIFIC COAST

IN THE VENTURA MOUNTAINS
HOTEL & CAMP ACCOMODATIONS
FISHING & HUNTING IN SEASON
OPEN YEAR AROUND
WHEELERS HOT SPRINGS
RATES $3.00 PER DAY. UP
90 MILES FROM LOS ANGELES
OUT DOOR SWIMMING PLUNGE
HOT MINERAL TUB BATHS
ELEVATION 1560 FT.

Webb W. Wilcox, Resident Mgr.

Write for 1920 Folder.

JUMBO

The Complete Truck

Full Line of Sizes Completely Equipped. No Extras to Buy Except Body.

NELSON MOTOR TRUCK COMPANY
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Large stock of all standard sizes on hand for immediate exchange.

Special Bearings Made to Order.
Factory Distributors for New
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OPEN DAY and NIGHT.

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Repair Shop in connection.

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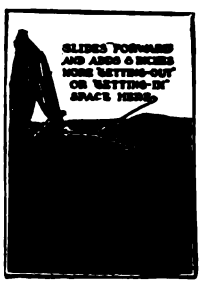
Easily Operated

NEVILLE "MORE-ROOM" STEERING WHEEL

Easily Installed



Neville "More-Room" Steering Wheels are year-around profit producers for dealers.
They are an "all seasons" high-class accessory always in demand.
Motor car dealers who stock no other motor specialties are buying Neville Wheels in quantities.
There is a Neville Wheel for every make of car.
Your jobber can supply you. Write for descriptive literature.

The Neville Steering Wheel & Mfg. Co.
136 Beaubien St., Detroit, Mich.

BARNEY OLDFIELD TIRES

"The Most Trustworthy Tires Built"

THE OLDFIELD TIRE CO.
BARNEY OLDFIELD, *President*
CLEVELAND
Export Department: 42 Broadway, New York

Stockton, Cal.—The Wallace Garage, Lodi and Cherokee Lane, has been bought by Orrin K. Kellerman and Paul R. Johnson.—L. Blake and O. Small, formerly with the Holt tractor factory here, have gone into business for themselves and have opened a tractor repair business in the Munson Bldg.

Oakland, Cal.—Charles Griffiths, Pacific Coast distributor for the American Balanced Six, has moved into his new building at Webster and Twenty-ninth Sts.

Palo Alto, Cal.—Walter B. Chichester has bought the Sunset Garage, in the Mayfield district, formerly owned by H. Tolmont and G. Orlandazzi.

Bakersfield, Cal.—The Gary South Coast Agency, of Los Angeles, has appointed Thomas Price, of the Crescent Garage, Kern county agent for Gary trucks.

Sacramento, Cal.—Riley & Davis have taken the Auburn Six agency.—Moeller Brothers will have a $100,000 sales building erected for them at Twelfth and K Sts.

Willits, Cal.—Frank Johnson has sold the Little Lake Garage to Walter Howard and M. Miller.

Colusa, Cal.—Silva & McKinnon have taken the Studebaker agency.

Eureka, Cal.—Lundblade & Jowett have taken the Mack truck agency.

Gridley, Cal.—A. C. Hodgkin, Maxwell agent, has bought the Butte Garage.

Fresno, Cal.—Shine Brothers & Anderson have succeeded the Biddlecom-Shirts Tire Works.—The Francisco Co., handling accessories, tires and vulcanizing, has opened at Merced and Van Ness Ave.

Stockton, Cal.—The Green Motor Sales Co. has been formed here with W. A. Van Buren as manager.

San Francisco, Cal.—D. S. Ledbebber has been appointed representative for the Roamer Motor Car Co. in Northern California, excluding San Francisco.

Seattle, Wash.—W. E. Farr has been made truck department manager for the Olsen-Warren Motor Co., handling sales of Velie and International trucks.

Spokane, Wash.—The National Sextet in Spokane county has been taken by Kearns-Fuher Motor Co.

U & J CARBURETOR BACKED BY SERVICE

A Big Increase in Motor Efficiency and a 30% Decrease in Fuel Consumption

These are the facts of every U. & J. Carburetor installation—facts that are making U. & J. Carburetors the BIG factors in present-day motoring efficiency.

Full particulars on request—write us today.

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EISEMANN MAGNETO

For Easy Starting in Any Temperature—
no other form of ignition ever devised equals the Eisemann Magneto.

For dependability under all conditions it is supreme.

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32 33rd Street, Brooklyn, N. Y.
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Detroit, 85 Willis Ave., West.

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GRANT SIX

You will agree with us that the new Grant epitomizes, smartness, comfort and fine engineering. Every mechanical detail measures up to the highest expectations.

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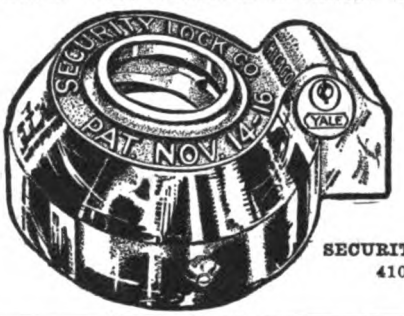
SECURITY AUTO LOCK

The original loose wheel lock for Fords. Approved by under writers. Insurance reduced 15%. Made of solid brass. Nickel plated. Easily installed in 10 minutes. No drilling. No filing.



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No chiseling.

Price $6.50.

Western Distributors Wanted.

SECURITY AUTO LOCK CO.
410 N. Paulina St.
Chicago, Ill.

MODEL 502 TEST SET
Price $25.00 prepaid to you.

We manufacture electric testing, charging and magnetizing instruments for use in garages and service stations.

We publish the world's best book on motor car electric systems, showing wiring and circuit diagrams back to 1910. Also includes the elementary principles that you should know. Price delivered to you, $2.50.

Complete Catalog Free.

We have openings for a number of Western dealers. Write for our free catalog and dealers' proposition.

H. E. PHILLIPS & CO. **Union City, Indiana**
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Use the Genco Battery Filler—keeps dirt, dust and grease out of your battery cells. The dial cap with MOVABLE INDICATOR records last date battery was filled and tested. RESULT—Better lights and never-failing starter. The dial is water and acid-proof and will last a lifetime. Genco Filler costs $2. Dealers and Jobbers write for full information and increase your profits. Manufactured only by

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Hydrometer Manufacturers Since 1893.

MORELAND TRUCKS

All Morelands burn Distillate

They are reliable, rugged and powerfu transportation units

Moreland Motor Truck Co.
1701-31 N. Main Street **Los Angeles, Cal.**

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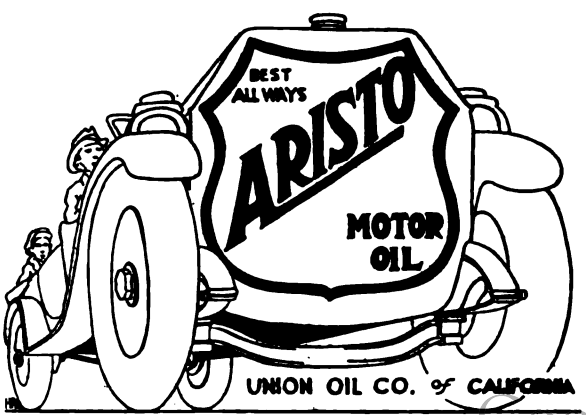

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Of Interest to the Owner

Something About "Cord" Tires

Is it worth the extra dollars to buy cord tires? This is a question which nearly every motorist weighs in his mind when the time comes to fit the car with new tires.

The cord tire will pay in the long run, the tire dealer or maker will tell you. In place of 5,000 miles of service on fabric tires you will be promised from 8,000 to 15,000 miles on "cords," and also, in many cases, a saving of from 15 to 20 per cent on gasoline.

These claims are based on the fact that the cord tire's improved construction wastes little or no energy in internal friction and heat. Thus the tire is more durable and the rolling resistance of the car on the road is less, reducing fuel consumption to the mile.

Cord tire construction has several advantages over the fabric tire, which has its carcass built of 17¼-ounce duck, close woven, and which is still in most common use among car owners.

There is little difference in cord tire making among the different cord tire manufacturers. One cord type may have only two layers of heavy cord; other companies use a greater number of layers of finer cord.

Both fabric and cord tires are laid on a bias of 45 degrees. The fabric tire is less durable because each thread of the warp bends around the threads of the woof, and as the tire passes over the road its tread is bent back and forth, straining the fabric threads and causing them to finally break.

In the cord tire all of the cords of one layer run parallel to each other, so that there is no bending of these threads, one over the other.

The threads of the adjacent layers run at right angles to each other, but these layers are separated by a thin coat of pure rubber. The result of this construction is that the cord tire offers much less resistance in bending than does the fabric tire. In traveling the road it will yield and snap back much faster.

There is less heat generated in the cord than in the fabric tire, also for the above reason. A car coasting down a hill on cord tires will coast farther than one on fabric tires.

Another cord advantage is that it will carry a given load with less air pressure than a fabric tire. This means something to the hundreds of thousands of motorists traveling about constantly with more or less under-inflated tires. Of course, it is bad practice to run with low air inflation even on cord tires. Also, the advantages of lower fuel cost to the mile are lost.

A larger proportion than ever of new cars are coming out cord-equipped. These tires are of the best construction and are really over-sized, allowing air pressure to be reduced about 10 per cent, as a rule.

Smaller wheels are meeting with favor for low-hung cars. The tire of smaller diameter is naturally less expensive. In former years the large wheel diameters made 34x4 tires very popular; now the 32x4 is very strong, following European practice.

It must be remembered that if the cord tire is inflated to the same pressure as the fabric tire there is not much difference in riding qualities. In fact, the cord tire is apt to bounce on the road much more. But when inflated 15 pounds less than the fabric tire, the riding qualities of the cord are noticeably superior.

Generally the ideal pressure for fabric tires is 17 times its cross-section diameter. That is, a 3-inch tire should be inflated about 51 pounds; a 4-inch tire to 68 pounds. For cord tires this may be reduced to about 15 pounds per square inch of tire section for smooth riding.

Bouncing tests for fabric and cord tires have shown that cords bounce 33 to 40 per cent more than fabrics and they keep on bouncing longer, this being on a car not heavily loaded.

All in all, however, the cord tire's longer life and its reduced rolling resistance make it an economical purchase for the motorist.

TAKING CARE OF THE LIGHTS.

In most cases the lighting system on the automobile is of such a complicated nature that the average owner will do well to leave repairs to the garageman when the trouble lies deeper than merely broken headlight lenses, broken bulbs or worn-off wire insulation. There are few owners who can set the regulator and cut-out aright once it develops trouble.

But the storage battery, ammeter, fuses, lights and wires should be studied and understood, so ordinary care can be taken of them.

First claim on our attention is made by the storage battery. You can easily learn to read a hydrometer, the best method of testing the battery. Breakage constantly threatens a glass hydrometer; one of celluloid needs much less careful handling.

If the mixture sucked up from the battery by the hydrometer shows a reading of between 1.275 and 1.300 specific gravity the battery is being kept properly charged by the generator. Should the reading be around 1.200 it shows that lights or starter are being used excessively.

During driving at night the lights are using much current which should charge the battery. More daytime driving and less using of lights is the remedy.

Should none of these troubles be shown then the only safe recourse is the repairman's expert attention.

The generator brushes should be investigated every once in a while. They may not be wearing evenly. In which case they do not fit properly and will allow free passage to the current, cutting down the electric system's efficiency.

Another result of the above is sparking, which damages the commutator and the brushes, making contact just so much worse. Brushes that spark should be fixed by an expert.

"The watchdog of the battery," the ammeter has been styled; the owner himself should be the watchdog of the ammeter. This little instrument, set in easy view in the dashboard, indicates the rate at which the battery is being charged by the generator and the rate at which it is discharging to light the lights or operate the self-starter.

With the car running at 20 miles an hour, all lights on, the ammeter needle should show "charge." If not, the battery is, or soon will be, discharged. Expert regulation of the generator is vital, as that device is capable of delivering more current than is needed.

Also, the ammeter should not indicate "discharge" when the lights and ignition are turned off. Look for a short circuit between the ammeter and the switch and tape or otherwise insulate it thoroughly.

Sometimes the ammeter needle becomes bent and gives an incorrect reading. To make certain that this is so, shut off the lights and disconnect the wire from the ammeter switch and ascertain the needle's position at rest. Of course, such variations must be carefully allowed for in reading the ammeter.

Lamps that burn out suddenly are an inconvenience, if not a danger. The best way, naturally, is to carry a duplicate set of lamp bulbs. The voltage of each lamp must be known first and the owner should compile this data and carry it with him for handy reference.

The voltage ratings of the instrument light and the tail light are especially important. If they are marked "3V" instead of "6V" this means that the lamps are connected in series, that is, the current passing through one light must pass through the other also. So if one light goes out, the other follows suit.

Three-volt bulbs put into six-volt lamps will burn out in a few seconds, but a 6V bulb put into a 3V socket will suffer no harm, although giving very dim light, as it offers slight resistance.

Besides carrying bulbs the motorist should never be out of a stock of fuses. Learn the location of the fuse for each set of lamps, by turning on all the lamps and pulling out one fuse at a time, noting which lamps go out.

If a fuse burns out, find the short circuit before putting in a new fuse; otherwise the fuses will burn out as fast as they are replaced.

As to the wires. The only attention they demand is to see that they do not wear loose, break or become short-circuited.

A WAY TO MEET HEADLIGHT LAWS.

Headlight laws vary. One economical way to meet them is to buy 10 cents worth of epsom salt, dissolve it in about five ounces of water, and flow the liquid over the inside of the lens. When dry, it forms a frosting similar to ground glass. Another way is to buy so-called ground glass substitute of a photographic supply house and pour it on the inner side of the lens, letting it flow so as to distribute it. One treatment is good for a season. Still another idea is to paste on the inner side of the lens a piece of paper with a 2-inch hole in the center. When it is dry, flow ground glass substitute on the unpapered center. Let that dry. Then soak off the paper in cold water. This plan affords plenty of light, with direct glare eliminated.

TRANSFORMERS.

EMO TRANSFORMERS

Will Increase Power—Add Fuel Mileage—For Automobiles, Aeroplanes, Trucks, Tractors, Motorcycles, Marine and Stationary Engines

EMO TRANSFORMERS transform the ordinary slow, faint spark into a high-tension blue blaze or flame which instantly explodes all the vapors even in the lowest gravity fuel, thereby insuring greatly added power and mileage. This intensive blue-white EMO flash keeps the spark plug points free from carbon, soot and oil. Prevents "bucking" or "loping." Insures easy starting, quicker acceleration, and a sturdy, uniform flow of power at all speeds. Protects the entire ignition system. Save many times their cost in fuel and spark plug economy. One EMO on each plug makes all cylinders pull even. Can be attached by anyone.

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MOTOR WEST'S REGIONAL MOTOR MART

RATES—One time, $4.00 per inch; three times, $3.75 per inch; six times, $3.50 per inch; twelve times, $3.25 per inch; twenty-four times, $2.75 inch

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PARTS PARTS PARTS

Make the California Auto Parts & Wrecking Co. your headquarters for everything in repairs and accessories for all makes and models of cars, both old and new.

MOTORS MOTORS MOTORS

Hundreds of them, all sizes and for every purpose. If your old motor is worn out, or beyond ordinary repair, we will furnish you with one to replace it, no matter what make, and give you liberal allowance on old motor. We have hundreds of them. Also hundreds of crank cases, cylinders, crankshafts, clutches, pistons and connecting rods, wheels, frames, steering assemblies, gears, rear end axles, radiators; in fact, everything and anything needed for an auto.

ACCESSORIES ACCESSORIES

All new accessories at a saving of 30 to 50%. We also carry a large stock of new gears for many makes and models of cars.

Learn to rely on our service. It is efficient and prompt. No matter what you want, it is usually to be found in our immense stock, the accumulation of ten years' business.

California Auto Parts & Wrecking Company

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Branch: 1130 S. Main St., Los Angeles, Cal.

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RAIN-SNO
CLEAR VIEW
WINDSHIELD CLOTH
AVOID ACCIDENTS

Do not drive your car with a Rain-Blurred Windshield
Over 10,000 Accidents Yearly caused by such a condition

RAIN-SNO "RED CLOTH" keeps the entire glass clear by chemical action. One application over wet windshield will give a clear driving vision which will last as long as any storm. *Be insured against accident* and secure a RAIN-SNO CLOTH today. At your dealers or by mail postpaid. **Price 50 cents**

Refuse substitutes and insist upon the Original "RED CLOTH"

Made only by SUFFOLK MANUFACTURING CO.
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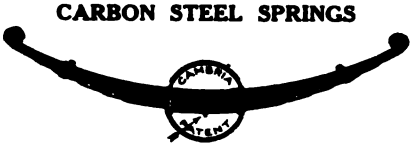
Cambria Spring Company
"Proven Quality"
CHROME VANADIUM AND CARBON STEEL SPRINGS



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High-Grade Second Growth Hickory Wheels Springs, Wheels and Bumpers Repaired

Wrecking Jobs Our Specialty

Tire Racks and Platforms Applied
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Distinguishes the BEST from the REST
The *Choice* of the MAN *who* KNOWS
No Rocking or Swaying on Curves
Guaranteed 5 Years

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TRADE MARK REG.

Saves 25% to 50% Gasoline, removes carbon, produces motor efficiency and completes lubrication.

Motorlife is guaranteed harmless to any motor, under all conditions and in any quantity.

Purchase price refunded if Motorlife does not prove satisfactory.

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Rose Fil-A-Gun Grease Bucket

Pumps to the Car or fills the Grease Gun

No Other Device on the Market Will Do This

Holds 25 lbs. Grease. Pumps ¼ lb. to stroke Grease Gun included with Bucket. List **$12.50**

Ask Your Jobber.

Frank Rose Mfg. Co.
Hastings, Neb.

Every Ford Owner Should Read "Transforming the Ford"

—Tells how to secure smooth, positive brake action that no car can excel. A little "transforming" and your car will glide to a quick, quiet stop without the annoying, irritating clatter that you now experience. It will go into low or reverse without jumping or jerking, and you can pick up speed with all the smoothness and ease of a high-priced car. All accomplished without additional expense and the result is a clear saving of 75 per cent in one direction alone. "Transforming the Ford" tells how it's done. Send for your copy this very minute—10c stamps or coin. CORMACK CO., Dept. 21, 500 Fifth Ave., New York City.

PARTS.

NEW PARTS *for all Cars*

AUTOMOTIVE PARTS SERVICE CO.

Pistons	Fly-Wheel
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Axles	Pinion-Gears
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Firestone

Quick Detachable Demountable Rims

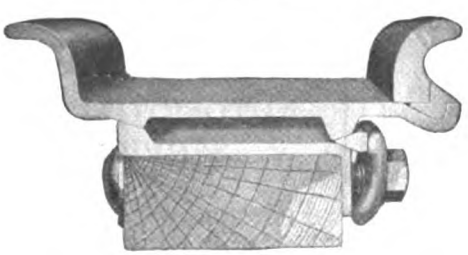
have been adopted by 60% of American Automobile Manufacturers as standard equipment for their cars.

The manufacturer knows that they give a satisfactory service which helps to maintain the reputation of his car.

The dealer appreciates that they—like other standard equipment—make sales of new cars easier and offer many opportunities for business as new equipment on old cars.

The car owner prefers them because he has learned that they make tire changes easy and get most miles out of any tire.

There is a Firestone Quick Detachable Demountable Rim for every size and type of tire and for every kind of service.



TYPE C

Continuous base detachable demountable rim for passenger cars; also made for truck users. This type of rim, in the 6, 7, 8 and 10 inch size, is the rim which has made the use of Giant Pneumatic truck tires practical for straight side tires.

The Firestone Steel Products Co.

Firestone Park
Akron, Ohio

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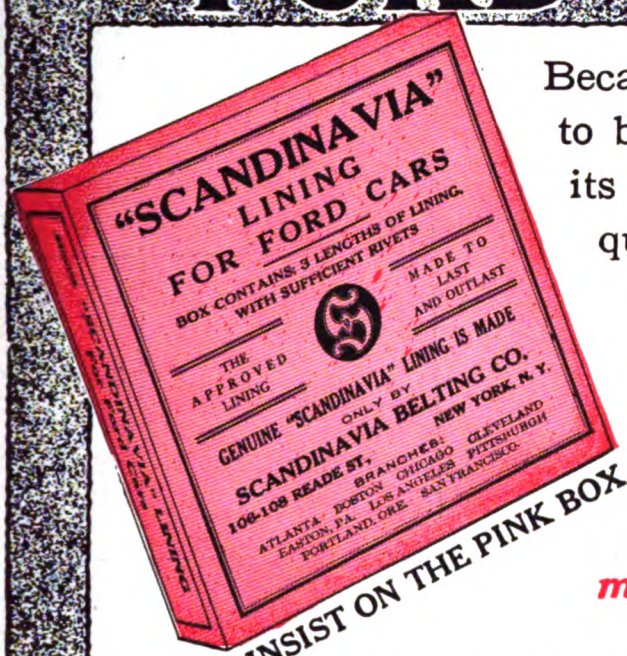
TRADE MARK REGISTERED IN U.S. PATENT OFFICE

BRAKE LINING for FORD CARS



INSIST ON THE PINK BOX.

Because it has proven itself to be all economy through its unusual long wearing qualities, and its satisfactory service during long usage—

Scandinavia has been the accepted lining for Fords for many years.

AS EFFICIENT AS AN AIR BRAKE--THE LINING DE LUXE FOR FORD CARS

Scandinavia is made especially for Ford use. The hot, oily condition of the Planetary Transmission cannot harm it.

It will not chatter or glaze.

It is wear proof.

It is made of the best long staple cotton interwoven into a compact fabric, especially impregnated, processed and hardened to resist heat, oil and grit.

ATTRACTIVE PROPOSITION TO JOBBER AND DEALER.

SCANDINAVIA BELTING CO., 106 READE STREET NEW YORK, N. Y

BRANCHES: Atlanta, Boston, Chicago, Cleveland, Easton, Pa., Pittsburgh. San Francisco. Los Angeles. Portland, Ore.

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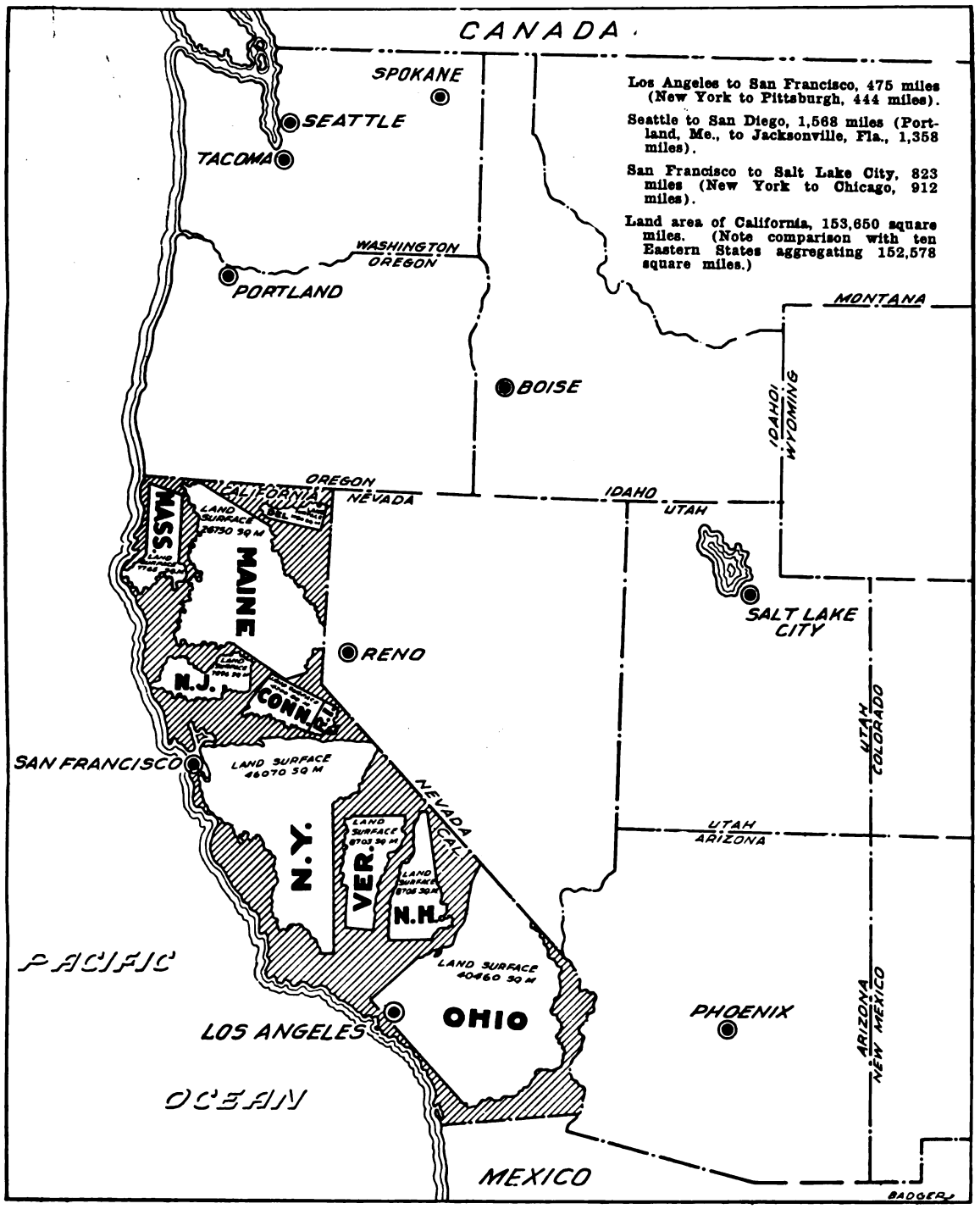
Motor West's Field — *An Empire In Itself*



MOTOR WEST territory takes one-sixth of the product of the automobile and accessory factories of the United States. There are more cars per capita for the seven States covered by **MOTOR WEST** than in any other seven States in the Union. California alone has one-tenth of the registered cars, is third in the number of registrations, and leads the United States in cars per capita with one to every 6.2 persons.

This territory produces 96% of the nation's walnuts, 50% of the canteloupes, 15% of the sugar beets, 51% of the pears, 100% of the figs, 91% of the honey, 95% of the olives, nearly half of the nation's peach supply, 75% of the oranges, 80% of the lemons—California alone producing three times its quota of the nation's food supply, and on one-fifth of its available productive land. Cotton especially suitable for tire-making is becoming one of the great products of this territory.

Washington and Oregon are two of the greatest lumber-producing States in the Union. The Pacific Coast States and Alaska furnish more than half of the nation's fish supply. California leads the Union in the production of barley, and Washington is fourth in Spring wheat production.

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Tons of

MACHINERY, TOOLS *and* AUTOMOTIVE EQUIPMENT

are being shipped to SAN FRANCISCO by Eastern Manufacturers for Exhibition at the

First Annual

Pacific Coast Equipment Exposition

to be held at the Auditorium

March 30-31—April 1-2-3-4

Below are some of the lines which will be on display during the show:

Accessories, Air Compressors, Auto Oil, Ball Bearings, Babbitt Metal, Batteries, Bearings, Brake Linings, Bumpers, Carburetors, Cleaners, Cleaning Compounds, Coils, Covers, Cranes, Cutouts, Cylinder Reboring Machines, Electric Instruments, Garage and Shop Equipment, Gaskets, Gauges, Gears, Gear and Wheel Pullers, Grease Cabinets and Guns, Grease and Oil Cups, Grease Guns, Headlights, Ignition Apparatus and Specialties, Inner Tubes, Jacks, Lamps, Lathes, Locks, Locksteering Wheels, Lubricants, Machinery and Tools, Magnetos, Milling Machines, Oils, Packing, Patches, Piston Rings, Pistons, Pliers, Polishes, Portable Cranes, Pumps, Pumps (Tire), Radiators, Reamers, Replacement Parts, Rims, Rim Tools, Scrapers, Shock Absorbers, Signals, Small Tools, Soldering Irons, Spark Plugs, Spring Lubricators and Oilers, Springs, Starters, Steering Wheels, Tanks, Taps and Dies, Timers, Tire Carriers, Tire Cases, Tire Fillers, Tire Pumps, Tire Repair Equipment, Tire Retreader Outfits, Tires, Tire Tools, Top Dressings (Auto), Tops, Transmission Bands, Valve Grinders, Varnish (Body), Vibrators, Vulcanizers, Welding Apparatus, Wheels, Wheel Pullers, Windshields, Wrenches, Camping Outfits, Hack-saws.

Thousands of accessory dealers, machine shop owners, garage owners, and jobbers all over the West will attend the big show.

Manufacturers should wire for Space Reservation

Pacific Coast Automotive Equipment Exposition

815-816-817 Gillette Building
San Francisco, California

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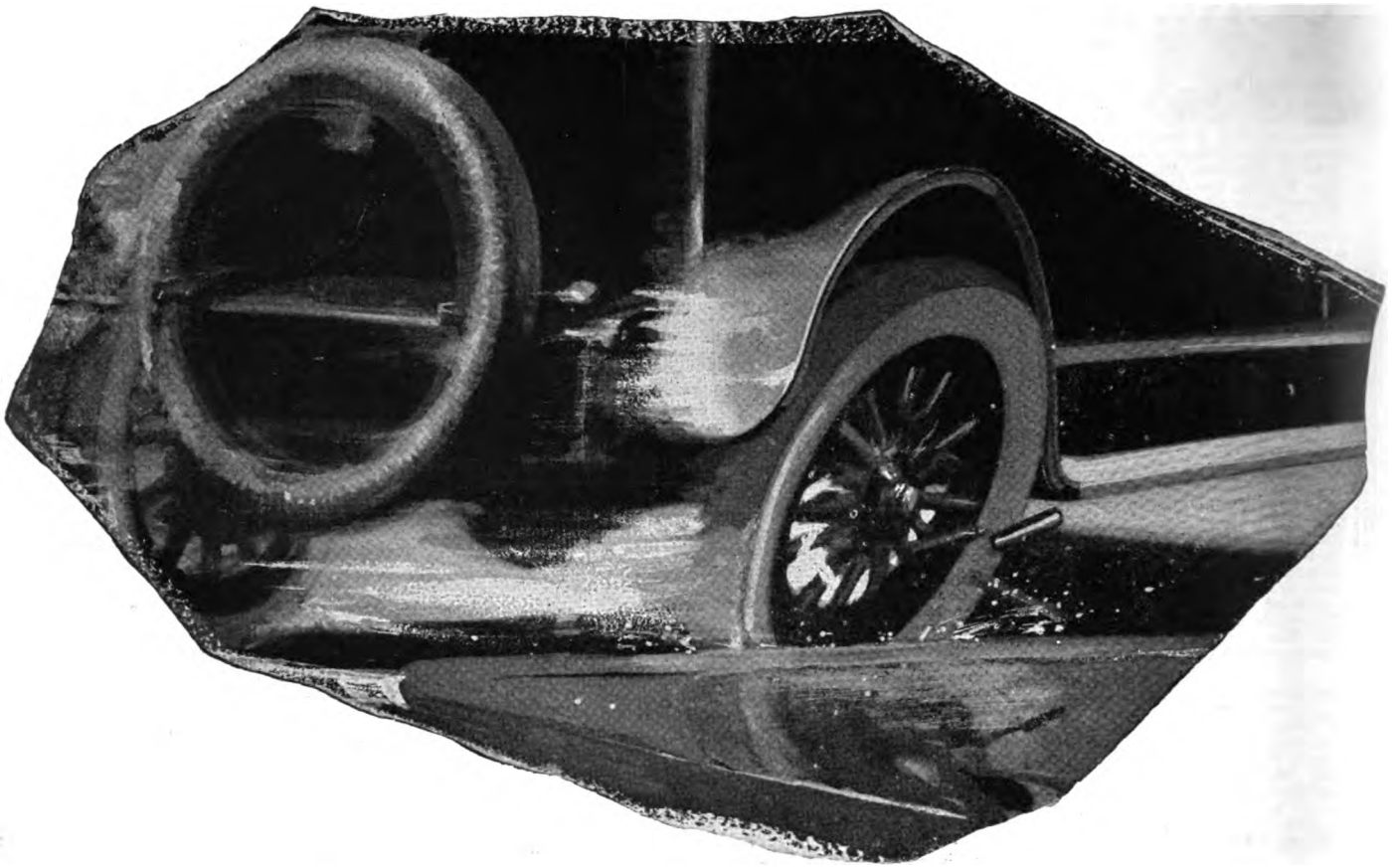
Powrlok in the Rear Axle



Prevents Skidding

Powrlok at one stroke minimizes skidding—the greatest danger—and stops stalling—the greatest inconvenience in automotive travel.

This is accomplished by a simple, time-tried and proven mechanical principle, which ***automatically*** distributes the power to the rear wheels as it should be—in direct proportion to the traction or hold which they have on the ground—instead of in indirect proportion as the ordinary differential does. Powrlok has been in actual use for over five years in upwards of 40,000 cars, trucks and tractors—invariably making good.

Upon examination, you will find it as simple and durable, as accessible and fool-proof as the finest differential ever built.

We believe no other device has ever met with such a unanimous approval by manufacturers. Over sixty manufacturers of cars, trucks, tractors and industrial trucks now use it as standard equipment.

Other questions are answered in our new booklet—"More Than A Differential." Ask for it.

Specify Powrlok in the rear axle when you buy any car, truck or tractor.

THE POWRLOK COMPANY, 1107 East 152nd Street, CLEVELAND, OHIO

CALIFORNIA DISTRIBUTORS FOR REPLACEMENTS ONLY
AUTO MACHINE COMPANY 536 West Santa Clara Street, San Jose, California.

FOREIGN REPRESENTATIVES:
The Powrlok Company, Ltd. Offices: 24 Maddox St. Regent St., London, England. 19 Avenue MacMahon, Paris, France

POWRLOK

"More than a differential"

For Motor Trucks, Passenger Cars, Tractors, Industrial Trucks, Axles and Transmissions

Please Mention "Motor West" When Writing to the Advertiser

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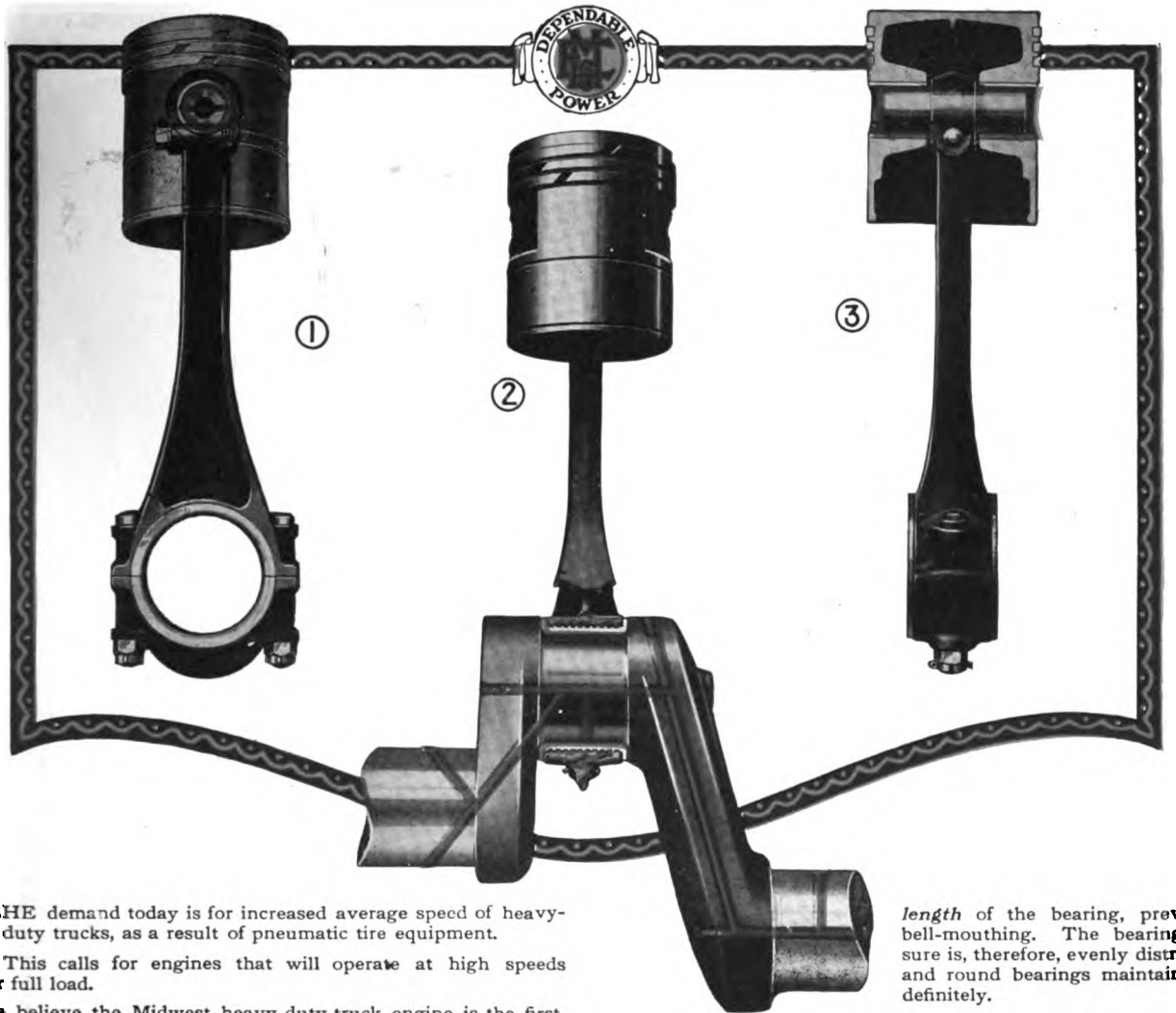
MIDWEST

TRUCK *and* TRACTOR ENGINE



THE demand today is for increased average speed of heavy-duty trucks, as a result of pneumatic tire equipment.

This calls for engines that will operate at high speeds under full load.

We believe the Midwest heavy-duty truck engine is the first, possibly the only, completely developed engine that *can* be safely operated under full load up to 1500 R.P.M. and is guaranteed under such conditions.

The above illustrations graphically tell how the design of the Midwest engine enables it to perform satisfactorily at high engine speeds.

All the bearings on the 3" whip-proof crankshaft are floated on a film of oil. The oil pressure is maintained according to the *load on*, rather than *speed of*, the engine by an automatic relief valve on the front bearing. The oil travels under pressure to the bearings, forming a film of oil at the moment of minimum pressure—not at the moment of maximum bearing pressure.

The connecting rod (Fig. 1) supports the full *width* of the bearing down to the center and the ribbed cap does the same on the lower half. The connecting rod (Fig. 3) also supports the full *length* of the bearing, preventing bell-mouthing. The bearing pressure is, therefore, evenly distributed, and round bearings maintained indefinitely.

The connecting rod bearing oil-film (Fig. 2) is formed just before the impulse stroke of the engine. As no shims or grooves are used, the oil must pencil, or spiral, into a film, floating the bearings continuously.

The pictures above clearly depict the liberal bearing area of the wrist pin, which is positively locked in the connecting rod. This construction prevents wrist pin moving endwise and scoring cylinders.

This unique construction of connecting rod and bearing is typically Midwest, and is one of the reasons why the Midwest heavy-duty truck engine is able to perform satisfactorily under present day, high speed, transportation requirements.

Complete information as to the general construction of the Midwest engine sent on request. Please address Sales Division 17.

THE MIDWEST ENGINE CO., Indianapolis, U. S. A.

Dependable Power

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FISK TIRES

THE dealer who wants to make money and to *keep on* making it will weigh each of these eight factors carefully before choosing a tire line—

The ability to deal *direct* with the manufacturer; the *quality* of the tires; the *appearance* of the tires; the *completeness* of the line; the *attitude of the public* toward the product; the manufacturer's advertising; the manufacturer's *distribution* facilities; and, most of all, the attitude of the manufacturer toward the dealer.

Actual investigation along these lines will lead to the choice of Fisk.

The Fisk ideal is: "To be the best concern in the world to work for, and the squarest concern in existence to do business with."

Next Time—BUY FISK

Time to Re-tire?
(Buy Fisk)

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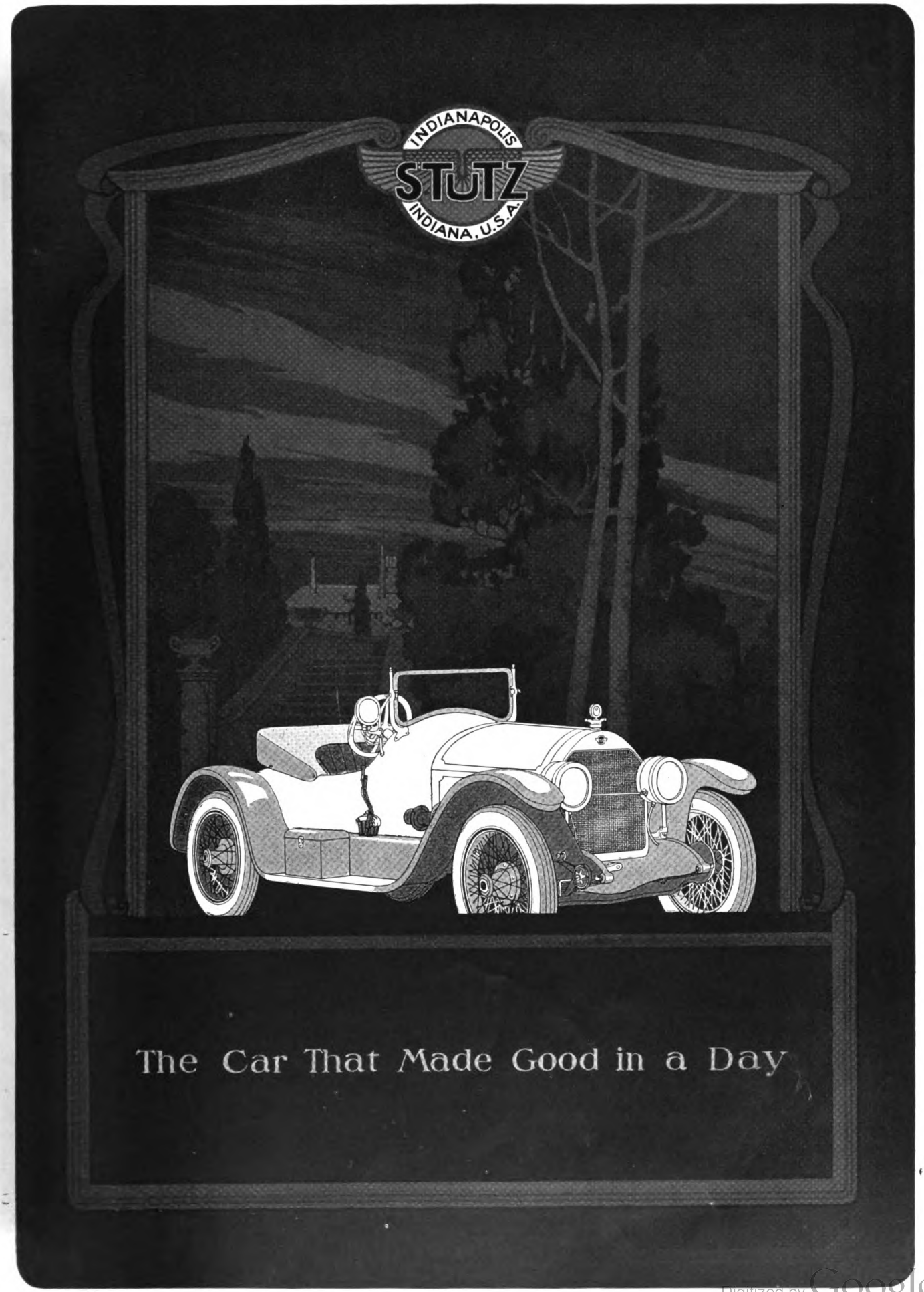

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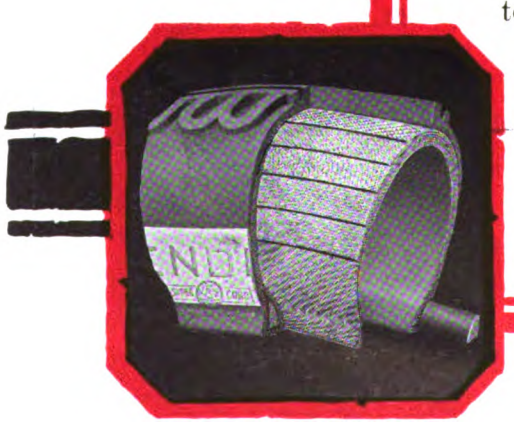
BRAENDER

Getting Customers Who Come Back

WE take it for granted that you expect the tires you sell to bring you repeat orders. Transient trade is surely an item, but the steady, satisfied customers who come back are the ones you bank on to pay the rent and buy the family shoes. We are wise enough to know that unless our BRAENDER TIRES make good with your customers, we can't expect to make good with you, therefore we make those tires "right" because we realize that it would be a slow form of business suicide to make them any other way.



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CORD AND FABRIC TIRES

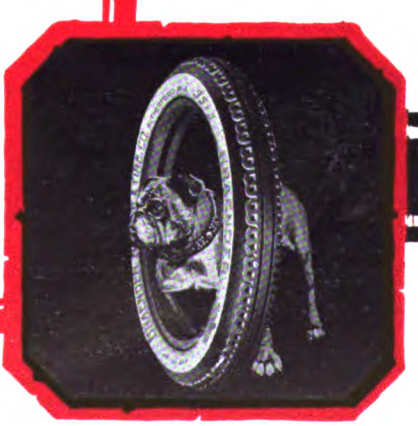
Our New Selling Plan Moves Tires

WE firmly believe that the new BRAENDER selling plans will strike you favorably. We fully realize that to keep the dealer's interest we must help him sell tires. It's such a simple plan. First—tires that stand up. Second—advertising that sells tires, and Third—more profit for the dealer. We have still some territory open. **Are you interested?**

BRAENDER RUBBER & TIRE CO.

Factory: RUTHERFORD, NEW JERSEY, U. S. A.

Branches: 32 Broadway, New York
1452 W. Girard Ave., Philadelphia
64 East 14th Street, Chicago
131-133 8th Street, San Francisco



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Leach
Power-plus Six

AT LAST! A motor car designed after the needs of the owner—not on manufacturing requirements. The Leach—"Power Plus Six"—is a custom-built car, equipped with a patented de luxe top with sliding plate glass windows and disappearing clear vision curtains. It is at once a closed or open car.

Its fashionable lines, harmonious coloring, perfect appointments and ease of driving appeal to women just as its snap, power and roadability win the favor of real men.

Continental 60 H. P. Motor, 8-inch Special Leach Frame, Brown-Lipe Clutch and Transmission. Delco Ignition, Presto-Lite Battery, 5 Wire Wheels with 5 Goodyear Cord Tires, 32x4½ in., Collapsible Locking Steering Wheel, Cigar Lighter, Motometer, Combination Trunk-rack and Bumper, one-piece Windshield, Waltham Clock and Speedometer.

Leach Biltwell Motor Company
Los Angeles :: California

DEALERS
TERRITORY OPEN

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MULTIPLIED OPPORTUNITY

JUST as Ajax facilities for production, and for giving service, have multiplied, so has the Ajax opportunity multiplied for dealers.

The Ajax Dealers Sales and Service Franchise has become even more of a business builder than before. It grants even greater advantages—even greater opportunity for making tire profits.

A greater Ajax Advertising Campaign in the big national publications—greater advertising help for Ajax dealers.

Know all the details—write for the Ajax *multiplied* opportunity.

AJAX RUBBER COMPANY, Inc., NEW YORK CITY
Factories: Trenton, N.J. Branches in Leading Cities

AJAX CORD

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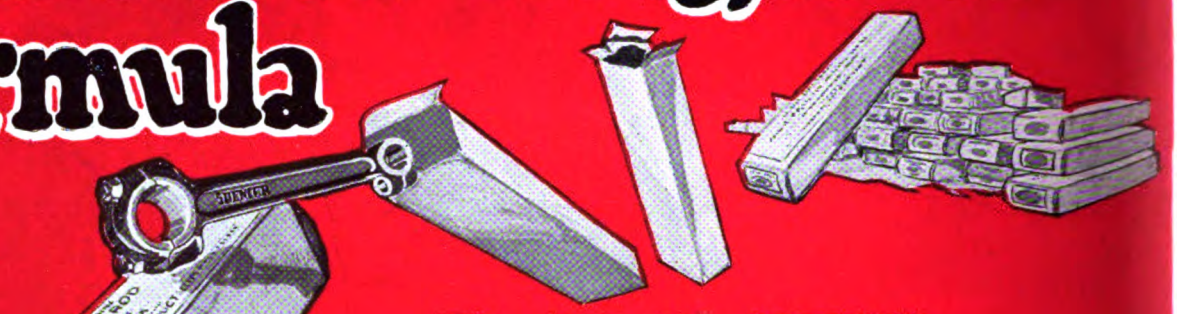
Babbitt's Original Formula



90% Tin

MOST manufacturers apply babbitt to the connecting rod and call the job done. Not so with a Spencer connecting rod. It is then put into a broaching machine; accurately worked down to perfect roundness; less than 1000th of an inch tolerance is allowed.

After each operation the Spencer connecting rod is subjected to process inspection, as well as a rigid final inspection. It is then packed in an individual carton.

Spencer connecting rods are a typical example of what Spencer quality means. There is something back of our guarantee that *every Spencer part is at least as good as the one it replaces.*

Spencer Quality starts with the selection of the raw material and continues throughout the different processes of manufacture, inspection, packing and shipping. We make certain that the goods reach the user *right.*

Spencer also means good delivery service. We operate on a large scale; buy raw materials in vast quantities; have a factory equipped with modern machinery; carry large stocks; are ready at all times to take care of quantity orders.

You can get Spencer quality, protection and service in the following items:

Axle shafts and drive shafts for all popular makes of cars. Connecting rods, radius rods, fans, mufflers and steering wheels for Fords. Gilliam take-down taper roller bearings for light cars and commercial trucks.

Spencer Guaranteed Products are sold only by the jobber. In ordering replacement parts from yours, specify and see that you get SPENCER GUARANTEED Products.

THE SPENCER METAL PRODUCTS COMPANY
Factory: SPENCER, OHIO
624 S. Michigan Ave., Chicago 16 to 24 W. 61st St., New York

Spencer Quality *Costs You No More*

THE SPENCER METAL PRODUCTS CO. SPENCER SPENCER, OHIO.

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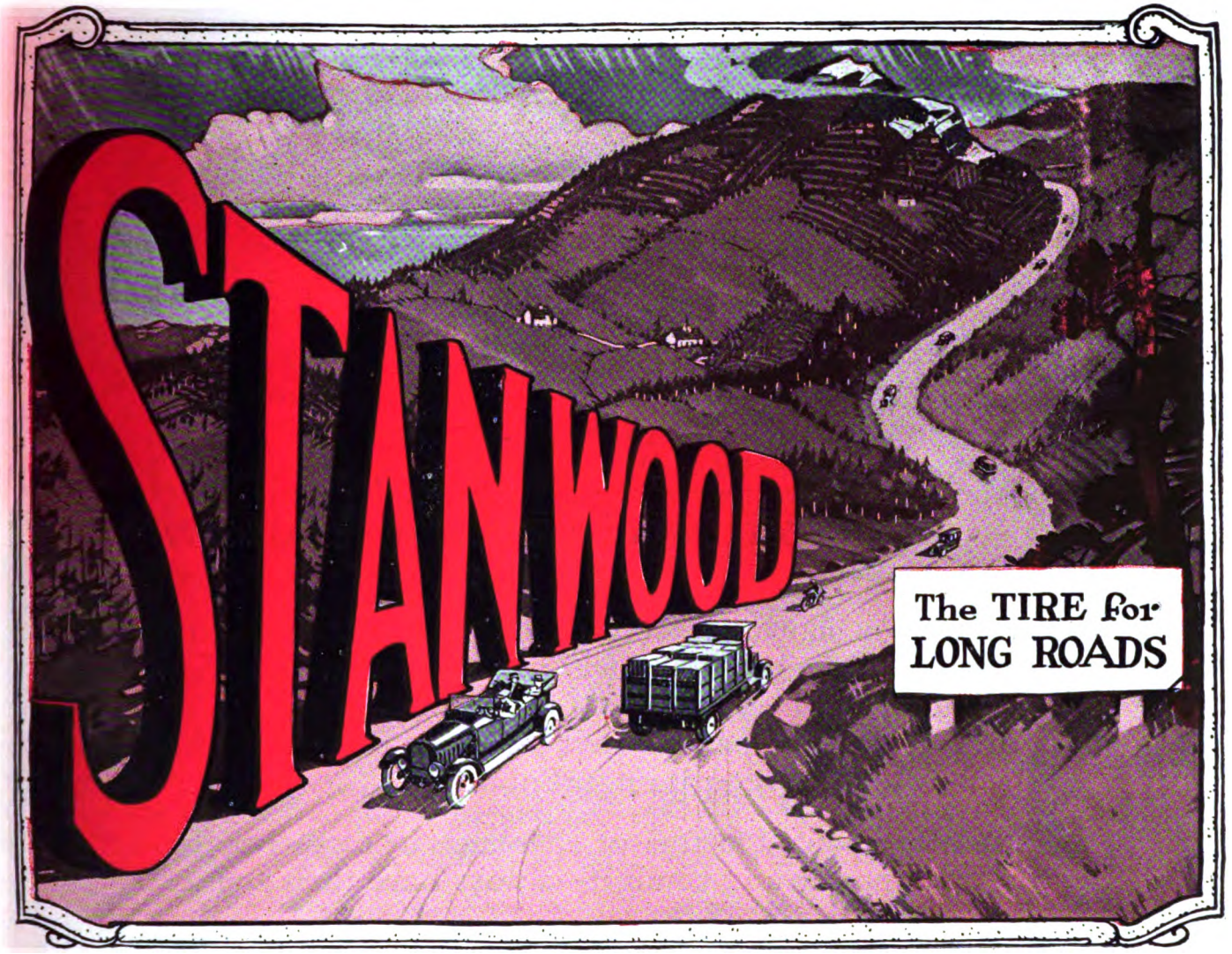

STANWOOD MILEAGE is the character of Service demanded by the modern motorist as a right. Mileage that is not only long-drawn-out but CARE FREE. Wrought into the substance of STANWOOD TIRES—Cord, Fabric and Truck Pneumatic—is an immense faculty for resisting the forces that punish in action.

ESSENTIALLY THE TIRE FOR LONG ROADS

Stanwood Contract for 1920 is a document worthy of study by high class distributors

Stanwood Rubber Company, Inc.
Executive Offices:
9 East Fortieth Street, New York City
Chicago Branch: 1712 So. Michigan Ave.
Plant: Elizabeth, N. J.

NOTE: Also STANWOOD Full Floating Tubes, Red and Gray, and complete line of Tire Repair Materials.

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HAYNES CHARACTER CARS THE FEATURE *of the* SHOWS

THE Haynes exhibits at the New York and Chicago automobile shows were in keeping with the record of the makers of America's first car.

Character—character—*character*—always the keynote of Haynes design and construction, was more than ever exemplified.

Among the showings were two distinct new types of fashionable closed cars which represented the last word in extreme refinement of design and quiet luxury of adornment—the new series five-passenger Brougham and the new series seven-passenger Suburban.

The four essential factors of character in cars—beauty, strength, power and comfort—always have their appeal.

Experience, reputation, ability, responsibility—these are the four factors of character expected in a Haynes dealer.

There are some sections in which we can consider the appointment of dealers who realize the opportunities and can meet the responsibilities of the position.

Such dealers are invited to write or telegraph us in confidence and arrange an interview.

In writing or wiring, address Dept. 349.

The Haynes Automobile Company, Kokomo, Indiana, U.S.A.

The Haynes, AMERICA'S FIRST CAR, now exhibited by the government at the Smithsonian Institution, Washington, D. C., was invented, designed and built by Elwood Haynes, in 1893.

1893—THE HAYNES IS AMERICA'S FIRST CAR—1920

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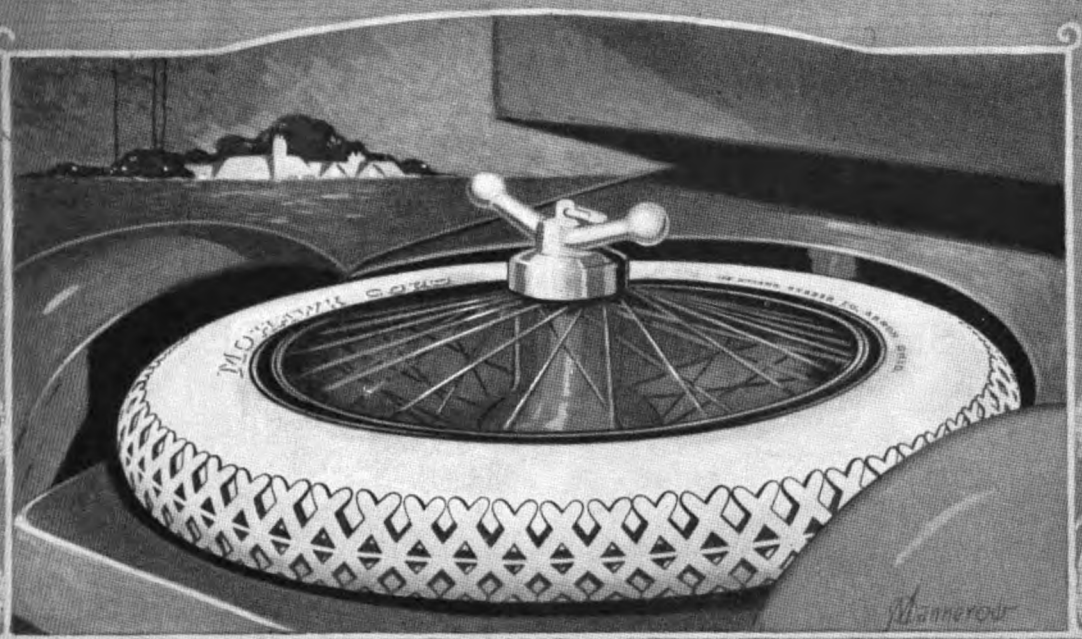

Simple Reasons for Mohawk Dealers' Success

Though thousands and thousands of Mohawk tires are in use throughout the country today, not in one of them has even an ***ounce*** of the many cost cutting, but quality reducing, rubber substitutes been used.

Every one of these tires has been made by ***hand***—experts only have been employed to build them. For seven years this standard of quality has been constantly maintained.

These reasons, summed up in four words—***quality through and through***—are the fundamentals of Mohawk dealer success. Quality always wins friends. It is the basis of satisfaction among customers—the biggest asset any tire dealer can have.

The Mohawk Rubber Co. is glad to talk to tire dealers who believe in a quality product

MOHAWK RUBBER COMPANY, AKRON, OHIO

DISTRIBUTORS

JENSEN-KING-BYRD Co., 320-324 Riverside Avenue, Spokane, Washington.

MUNNELL & SHERRILL, 40 First Street, Portland, Oregon.

RUBBER SERVICE CO., 1023 E. Pike Street, Seattle, Washington.

MOHAWK "Qualify" TIRES

HAND MADE

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HARDMAN

INNER TUBES

FOR SHIPMENT UNDER PRIVATE BRAND

"and what's more, they float!"

DUE TO INCREASED PRODUCING FACILITIES A proportion of the output of HARDMAN Celebrated Tubes will now be devoted to the Private Brand trade. Jobbers desiring exclusive territorial rights on this unrivaled product under their own brand are invited to refer to our Executive Offices.

A rigid policy of always keeping in advance of standard tube manufacturing practice has enabled HARDMAN Tubes, Red and Gray, to meet the most exacting demands of service right along. Fortified all through against undue wear. And what's more, they float—being made of full floating stock.

HARDMAN RUBBER CORPORATION

Executive Offices: 9 East 40th Street, New York City

Chicago Branch: 1712 So. Michigan Avenue Factories: New Brunswick, N. J.

NOTE: Also Hardman Celebrated Tires and complete line of Tire Repair Materials.

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THERE is no denying the fact that a Nash dealer contract is a mighty fine thing to have these days. Nash dealers in all sections of the country are successful because the Nash factory, in conjunction with Nash distributors everywhere, assure the Nash dealer a "square deal" at all times and make every effort to see that his business is permanent, profitable and steadily increasing in volume from year to year.

Nash Passenger Cars

5-Passenger Car, $1595 2-Passenger Roadster, $1595 Sedan, $2725
4-Passenger Coupe, $2495 7-Passenger Car, $1765
4-Passenger Sport Model, $1745

Nash Trucks

One-Ton Chassis, $1650 Two-Ton Chassis, $2250
Nash Quad Chassis, $3250
Prices F. O. B. Kenosha

The Nash Motors Co., Kenosha, Wis.
Manufacturers of Passenger Cars and Trucks
Including the Famous Nash Quad

NASH MOTORS

VALUE CARS AT VOLUME PRICES

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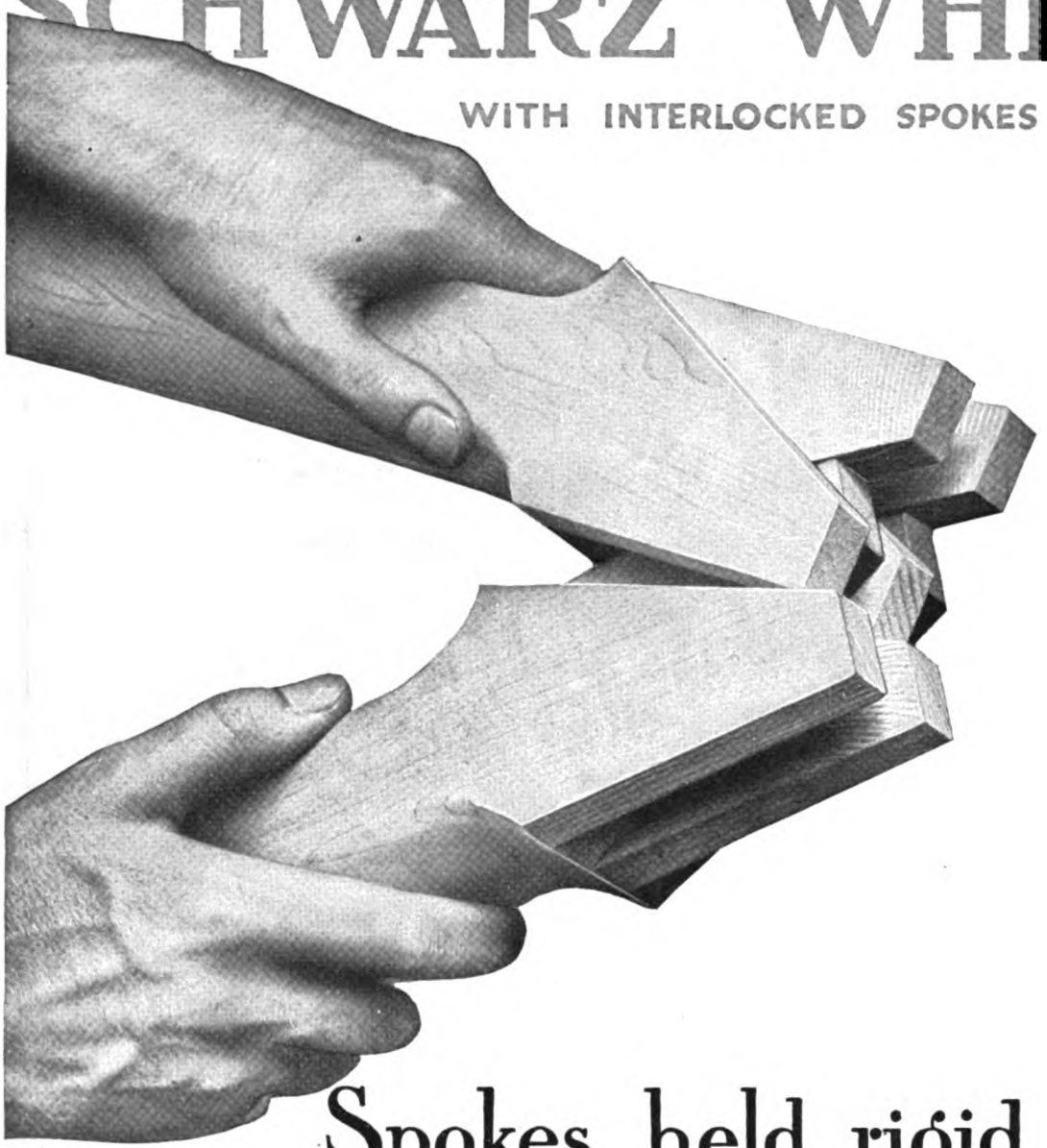
SCHWARZ WHEELS

WITH INTERLOCKED SPOKES

NOTE THE WOOD WHEELS EVERYWHERE



Spokes held rigid without hub flanges

The spokes of Schwarz wheels simply CAN'T work loose. The patented interlocked spoke construction holds them rigid, true and immovable under all conditions.

This exclusive feature makes Schwarz wheels the most dependable type of the time-tested WOOD Wheel. It makes it possible for the automobile or truck owner, repairman or dealer to get SPIDERS in any size right out of stock.

We carry complete stocks of spiders and wheels for all trucks and passenger cars. Also a full line of automotive equipment, accessories and hardware.

Prices quoted on request.

SCOVEL IRON STORE CO.

SAN FRANCISCO SISCO LOS ANGELES

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Standard
DETROIT USA

STANDARD SIGNIFICANCE

JUMP on the Running Board of a STANDARD Motor Truck and try to shake it!

You'll find it Solid as a Rock—and right Here your Appreciation of STANDARD Securtity begins.

It MEANS Something when we say that STANDARDS are Built to Stay Built—because STANDARDS have been Built for Ten Years, and the First Trucks Built are Still Running.

The Name STANDARD was applied to STANDARD Motor Trucks in the Pioneer Days not because it was an Excellent Name and could be applied to Motor Trucks—but because it was the one Name that would Fully Express the Inbuilt Character of STANDARD Motor Trucks: *Standardized Quality Trucks.*

On the Face of it—there is something Remarkably GOOD in a Motor Truck that has carried an Excellent Reputation during the Ten Years of Motor Truck History.

Dealers Write for Territory.

STANDARD MOTOR TRUCK CO., - *Detroit*

Standard MOTOR TRUCKS
Registered
MADE IN DETROIT USA

1, 2½, 3½ and 5 Ton Capacities

"All the name implies"

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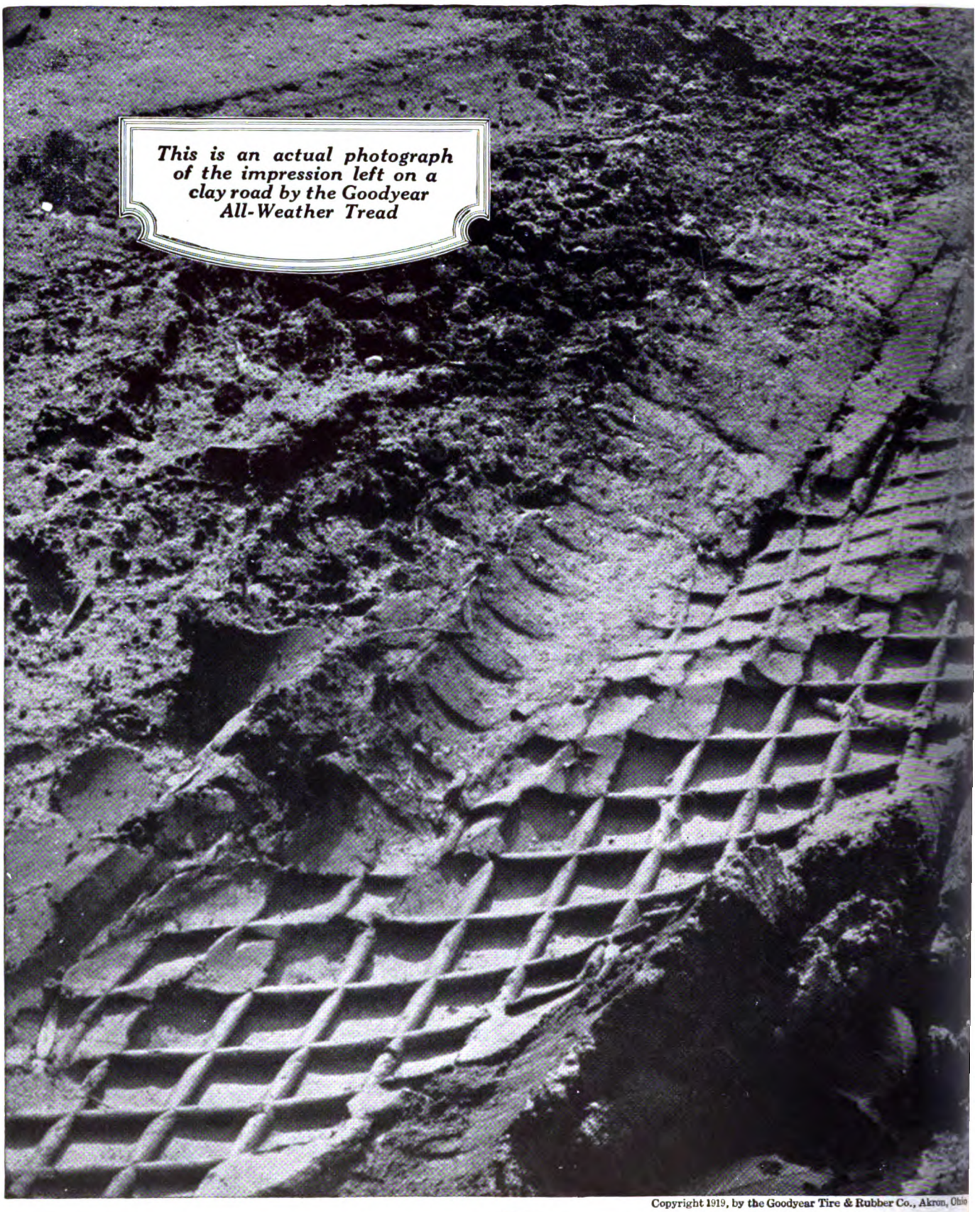

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GOODYEAR

Please Mention "Motor West" When Writing to the Advertiser

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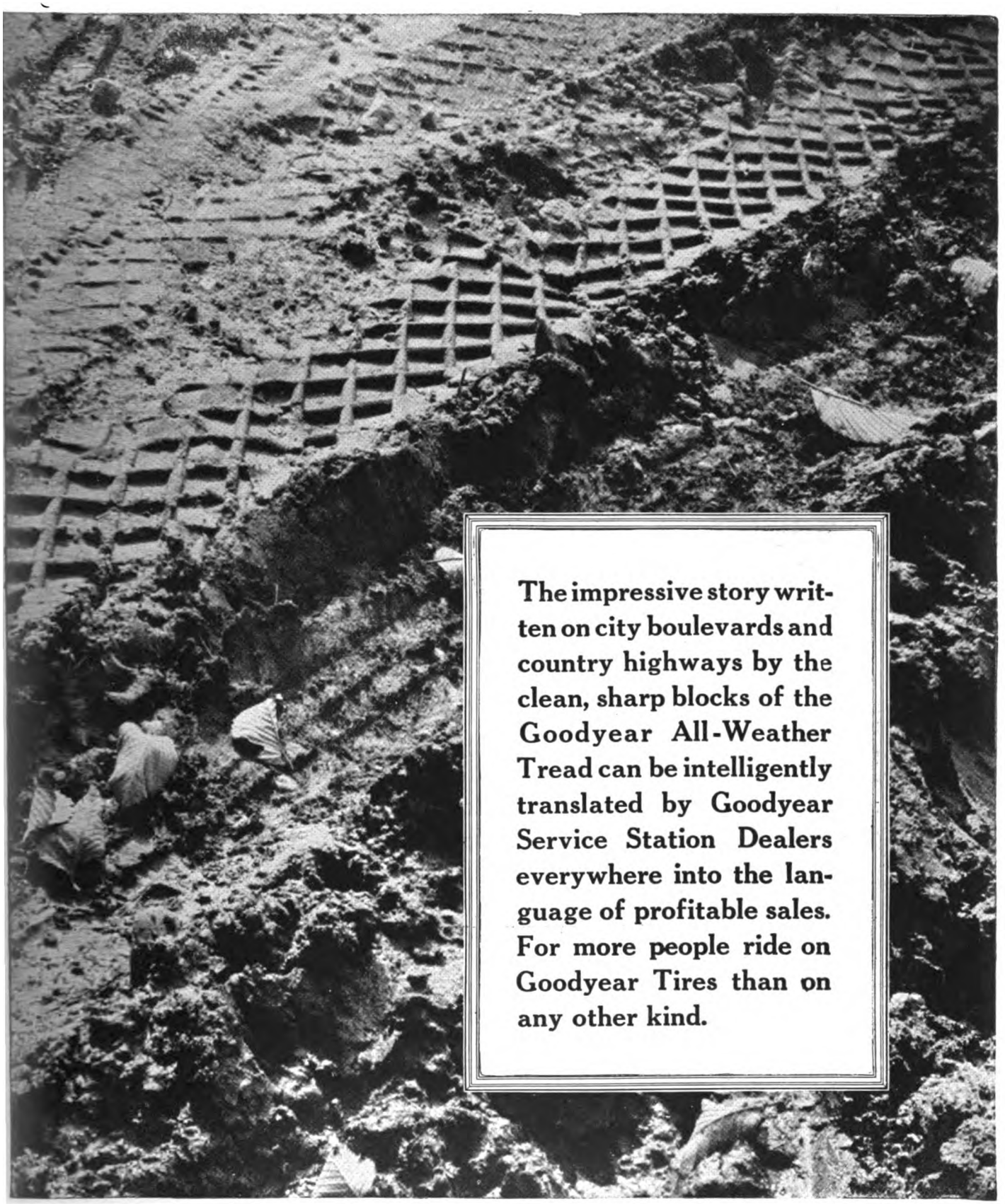

CORD TIRES

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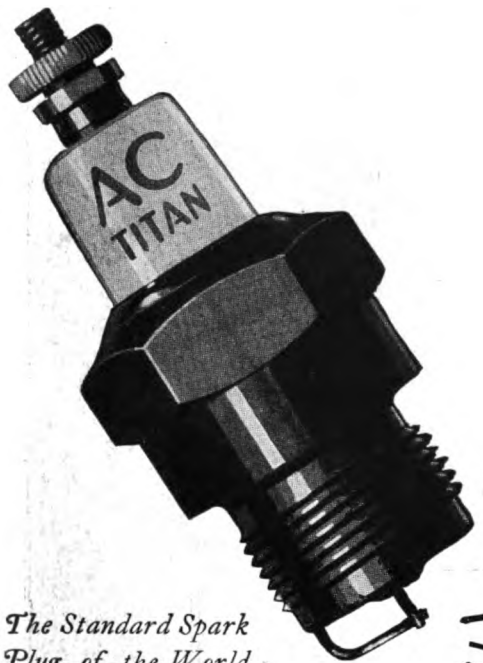
Only Our Output Can Limit Your Sales of AC's



The Standard Spark Plug of the World

As long as we continue to **manufacture** more and more spark **plugs each** year, and as long as AC **Spark Plugs** continue to merit the **pronounced** preference as original **equipment that** they now enjoy, dealers **stocking the** AC line can be sure **that their sales** and profits will increase **in proportion** to our production.

The demand for AC's **is tremendous** and growing daily, due to **the unfailing** service that they give **and to our** policy of stimulating **their sale** through a widespread **and consistent** advertising campaign.

Concentrate on the **complete AC line** for a profitable, permanent **and growing** business of quick **turnovers and** customer good will. **Dealer information** sent on request.

Champion Ignition Company
FLINT, *Michigan*

U. S. Pat. No. 1, 135,727, April 13, 1915. U. S. Pat. No. 1,216,139, Feb. 13, 1917. Other Patents Pending

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No Dealer Ever Changes From White Stripe

In sets of three, $2.00.
Rockies West, $2.25.
Canadian price, $3.00.

In Rolls, 250 feet,
32c per foot.
Rockies West, 35c.
Canadian price, 40c.

Ask any Ford owner who has used White Stripe how he likes it. He will tell you it gives the smoothest break and longest wear of any fabric lining ever made for Fords.

Any dealer or garageman who has ever sold White Stripe will tell you it is the finest piece of fabric he ever handled. Also that he is so well satisfied with White Stripe results that he is not going to change.

White Stripe is woven to WEAR! It is made from the finest quality cotton produced. White Stripe is bound to outwear any other lining. Every strand of White Stripe is filled with a treatment that keeps the lining soft and gives it smooth gripping power.

You ought to be selling White Stripe to your customers. The more White Stripe you sell the satisfied more customers you will have. No dealer ever changes from White Stripe. Find out why.

Ask your jobber or—write us direct.

Advance Automobile Accessories Corp.

56 E. Randolph Street, Chicago, Illinois

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Motor West

THE MOTORING AUTHORITY OF THE PACIFIC COAST

VOL. XXXII, No. 10 MARCH 1, 1920 $2.00 PER YEAR

MOTOR CARRIERS OF STATE GATHER

Plan Is to Divide California Into Districts and Build Up Transport Systems Harmoniously.

More than 600 motor carriers of passengers and freight, covering more than 4,000 miles of highway in all parts of California, were represented at a recent meeting in Los Angeles when the name California Highway Transportation Association was discarded and the name Motor Carriers' Association of California adopted, as being more specific. Officers for the ensuing year were elected and various articles discussed with reference to their inclusion in the constitution, which will be up for adoption in April.

Henceforth the organization's scope will be much greater than heretofore. Every center operating 25 or more passenger carriers (it is aimed to gradually eliminate the word "stage") or trucks will have a representative in the state body and will form the active membership. Manufacturers and dealers will be associate members. Of these, the White, Pierce-Arrow, Goodyear, Firestone, Goodrich and Miller companies were represented at the meeting. It is expected that within six months every motor carrier line in the state will be a member and that the total mileage represented by all the member lines will be more than 8,000. At the recent meeting the representation of passenger and freight carriers was about equal.

Among those present from the North was Mr. Hewitt of the Star line, operating from Modesto through Stockton, Oakland and Sacramento. Mr. Walling represented the Anchor line, running from Fresno to Oakland, and the Peerless Auto Stage Co., of San Jose. Mr. Wrenn was there for the Pickwick Northern; Mr. Morgan for the United Stages; Messrs Ingalls and Dear for the Kern County Transportation Co.; Mr. Powell for the White and Eldorado lines.

Establishment of concurrent rates and schedules over all lines, is one of the objects of the association.

O. R. Fuller, president of the White and Eldorado companies, was elected president; F. D. Howell, secretary and treasurer. These two, and an executive committee to be selected by representatives from the various operating districts, will be the administrative body, to handle and solve all transportation and road problems and, through the districts, to build up motor transportation throughout the state; to bring about the adoption of union terminals; and so on.

Fowler Lamp Factory Prospect.

Harry N. Fowler, president and treasurer of the Fowler Lamp and Mfg. Co., Chicago, has been in Southern California some time and leaves about March 2 for Fresno and San Francisco. He expects to establish in Los Angeles a lamp works and general service station, covering enameling, nickeling, etc. His company does an enormous business in Chicago—thousands of dollars' worth, monthly, with each of several large automobile agencies. Mr. Fowler was secretary of the Chicago Auto Trade Association when N. H. Van Sicklen was its president, and is now chairman of the board of directors of the Illinois Automobile Club.

To Assemble Cars in Stockton.

Stockton, California, is to have an automobile assembling factory. The first car was recently turned out and by June output will be 10 a day. W. R. Covington, former sales head of the F. D. Naylor Ford agency, and G. A. Reemsnyder, well known local car dealer, are heads of the new plant, to be located on the site of the U. S. Garage, at San Joaquin and Miner Ave.

"Wild Bill" Ruess to Come Back.

William R. ("Wild Bill') Ruess, Los Angeles veteran, formerly distributor of the Pope-Toledo, is financially associated with Edward R. Maier, rich brewer, and plans to re-enter the automobile business on a large scale. He is arranging for several prominent lines.

RADIATOR PLANT COMES TO COAST

Curran-Detroit Company to Meet Its Pacific Demand by Establishing a Factory in Los Angeles.

The Curran-Detroit Radiator Co., of Detroit, will establish a factory in Los Angeles. Mr. Curran is expected to visit the Coast immediately for that purpose.

Simplified thermostatic control, guaranteed to keep the motor warm in winter and cool in summer, is the outstanding feature of the radiator. The upper tank is divided on opposite sides by vertical plates of varying levels. Heat expands water, and when the end reservoirs are too warm the water rises, spilling into adjacent central sections. When speed (gas) is reduced, the water automatically drops back to the smaller circulation. The motor is thus run, winter or summer, at an even temperature of 160 to 180 degrees, which means as much mileage in winter as in summer. If, with no heat on, the radiator should freeze, no damage results. One was purposely frozen 18 times as a test.

The radiator's construction makes the air strike, at a 30-degree angle, the entire width and length of the corrugated plates. Engineers estimate the angle of fin surface, and increased air pressure it causes, increases cooling power 100 per cent. This is an exclusive Curran feature. The Curran radiator is all brass, does not leak, and, it is claimed, cannot be injured by vibration.

No Use Counting Them All.

How many used cars are there for sale on the Coast? Foolish question, perhaps, but during one recent Sunday 432 individual used cars, name of make and other particulars given, were advertised for sale in one San Francisco newspaper. Less than one-tenth of these were trucks. The bulk of these cars were offered by the most reputable used car dealers and there is no telling how many hundred others carry their own "for sale" notices in San Francisco and other large Coast cities.

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ALL'S WELL! RAIN RELIEF ON COAST

Welcome Dollar-a-Drop Stuff Falls in Pleasing Excess of Last Year's Record for Same Period.

Never in the history of the Weather Bureau has there been recorded what could be truly called a drouth year in California; and this probably is true of the entire Coast region.

This season, as last—it happens practically every year—there has been some anxiety, for the reason that the mysterious factors that govern rain do not print a time table. The beneficent showers come when they come—it may be in October, it may be in February, that the bulk of the season's allotment of moisture falls. Often, as happened this time, showers come early, and again at intervals between October and February. The normal annual fall for California is about 15 inches, compared with about 35 inches for Illinois. So far this season, California has had approximately 7 inches—more than last year at this time, though still about three inches below normal at this time.

The rains that have fallen all over the Coast region recently have practically dispelled all anxiety. All's well. There is practically no doubt that the production records of 1919, which mostly approximated those of 1918 and in some respects considerably exceeded them, will be broken in 1920. Some California product percentages of 1919, compared with 1918, were:

Corn, 96.5 per cent; wheat, 215.1; oats, 93.7; barley, 87.4; potatoes, 88.2; sweet potatoes, 92.1; rice, 107.4; hay (tame), 143.3; hay (wild), 118.5; beans, 52.1; cotton, 104.5; sugar beets, 95.7; hops, 143; onions, 95.3; apples, 131.7 (the crop was a 98 per cent one—proportionately larger than that of any other state); peaches, 147.7; grain sorghum, 93.4; pears, 196.1; prunes, 288.9; apricots, 121.3; almonds, 151.1; walnuts, 132.5; oranges, 94.7; lemons, 140.9; raisins, 107.8.

California grows 96 per cent of the nation's so-called English walnuts. The forecast for the 1919 crop was 50,000,000 pounds. They have become a common food on the Coast itself and sell at from 25 to 50 cents a pound. California produces 98 per cent of the nation's almonds; 50 per cent of its canteloupes; 15 per cent of its beets; 51 per cent of its pears; 100 per cent of its figs; 91 per cent of its honey; 95 per cent of its olives; 75 per cent of its oranges; 80 per cent of its lemons; 35 per cent of its peaches—17,488,000 bushels in 1919, on 118,000 acres; and so on. The California figures happen to be at hand—they indicate, however, the whole Coast region's productivity.

California farmers received at least $100,000,000 more for their crops and live stock in 1919 than in 1918, and more than $50,000,000 more than their gross income in any previous year. Their 1919 products totaled a value of $735,496,000.

This year promises to be a billion-dollar year, and King Cotton is one of the reasons. He is establishing a new domain in the Pacific region, including Arizona. Tens of thousands of new acres will be planted soon.

The activities of Goodyear in Pima County (Tucson section) and Salt River Valley (Phoenix), Arizona, and in California's Imperial Valley are amazingly large. They comprise a number of gins, and for financing and purchasing crops, which is encouraging production unprecedentedly. Fisk tire interests have similar plans in motion. They want not less than 50,000 acres of Pima County long staple in 1920, and are very active in Salt River Valley and near Yuma.

TO PROTECT JOBBERS ON COAST.

The Automotive Equipment Manufacturers' Agents' Association of the Pacific Coast States has been organized by Louis Graf, of the Graf Sales Co., Hearst Bldg., San Francisco, with 12 members in that city as the nucleus and Mr. Graf as their president. A Los Angeles unit is reported in the making, with E. O. Berger as acting secretary. The idea is to protect the jobber, and it is expected that eventually all Coast states will be represented. Any manufacturers' agent, selling accessories to jobbers only, is eligible.

The Palo Verde Valley, near Riverside, Cal., is very much on the cotton map. Perris Valley and Antelope Valley are getting on. North of the Tehachapi range the vast San Joaquin Valley is awakening to cotton, and there is one gin as far north as Butte County.

The interest taken in cotton, by tire manufacturers, is warranted by the statement of a noted authority that there will be a world shortage for ten years to come. Just now the famous Lancashire cotton mill district, in England, is overwhelmed with business and factory shares are selling at prices indicative of immense dividends expected.

Oil—plenty of it is assured, especially by the passing of the oil land leasing bill in Congress, whereby production will jump. Well qualified geological experts laugh at the idea of early exhaustion. They say the Pacific region's pools have barely been tapped. Twenty-seven new wells were drilled this year in California before the middle of January, and sixteen wells were started in the same period—ten of them near Bakersfield. These new wells represent the development work of twelve companies. There will be many more companies when the leasing bill is a law.

All of which, only faintly indicative of Pacific Coast development as a whole, means prosperity for automobile, motor truck and tractor interests, and all related interests. The observations of swarms of trade men from the Middle West and East, now on the Coast, amount to excitement over the opportunities that loom. The state of mind of these men not only indicates they see fine business ahead. It is even more evident that many of them have new plans in mind with reference to the whole region. Branch arrangements of wider scope than ever, and factories, will follow. The pioneers in this movement, notably Goodyear, will have plenty of company soon. It is written large and plainly.

Root to Use a Lexington.

Charles P. Root, of Chicago, managed the first Elgin road race, in 1910; also the one in 1919. He will manage the first national motor truck reliability contest, which starts from Omaha in June. Likewise he will be manager of the 1920 Glidden tour, 3400 miles, from coast to coast. He was selected as referee of the 250-mile race on the new Los Angeles speedway. He is A.A.A. contest board representative in Chicago. For some years he was editor of Motor Age. He was automobile editor of the Chicago Herald-Examiner and personally drove over the touring routes that paper featured. In the ten years since May, 1909, he has confined himself to just two automobiles and has driven them over 200,000 miles. All of which is apropos to the statement that after careful inspection at the national shows he selected a Lexington Thorobred model for the season's work ahead of him. This includes going twice over the 3,000 mile motor truck contest route, the trip from Chicago to the starting point at Omaha, and return, and then to New York for the transcontinental Glidden tour.

Livermore May Get Axle Plant.

Livermore, Cal., is negotiating with a view to getting an automobile axle factory located there, the plant to cost over $200,000 and to employ about 100 men at the start. The promoters ask a 12 acre tract as a bonus, to be deeded over when the factory is in operation.

Cheney on Coast for Champion.

C. C. Cheney, field representative of the Champion Ignition Co., Flint, Mich., which furnishes A-C spark plugs to many automobile racers and fliers, is in California. Recently he was with Tom Milton in his Florida record breaking endeavors.

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SAN BERNARDINO SHOW DRAWS 'EM

Automobile Exhibits Occupy a Large Section of Space in Great Annual Orange Festival.

Very prominent in the annual national orange show in San Bernardino Cal., was the automobile section. As many localities of Southern California make community exhibits at this annual show, the attendance and effects are far beyond being merely local. One end of the large industrial tent was given over to the automobile exhibits. One of these was the Gardner, a newcomer, manufactured in St. Louis and shown for the first time in California. It was represented by C. S. Gross of Riverside. Other exhibits were:

Chalmers and Hupmobile-San Bernardino Rubber Co., represented by W. Frank Hager.

Dorris and Templar, represented by D. S. Foulke, Pasadena.

Grant Six and Briscoe—Fowler & Leeson, San Bernardino.

Nash Six—J. W. Kemp, Riverside, and J. H. McLarren, San Bernardino.

Chandler and Cleveland—the Riverside, Santa Ana, Pomona and San Bernardino agents represented by J. F. McIntyre.

Case—Charles W. Rain Co., San Bernardino.

Bethlehem truck—Milo E. Powell and O. G. Walker, Riverside and San Bernardino counties.

Kissel automobiles and trucks—A. B. Anderson, San Bernardino.

Mack trucks and parts—C. R. "Blue" Fraser and F. J. Townsend, traveling representative from Los Angeles, in charge.

Studebaker, Republic trucks—Grace Motor Co., Riverside, Corona and Pasadena agents.

Hudson, Essex, Maxwell—Displayed by the Grace Co. and the Harold L. Arnold dealers' exhibit.

Moreland trucks, Utility trailers—Riverside Implement Co., C. I. Ware in charge.

Chevrolet—Edward Rever, San Bernardino distributor.

Dodge Brothers—Stutt Bros., San Bernardino.

General Motors Truck and Leach Six—Western Motor Transportation Equipment Co., San Bernardino, represented by J. S. Sargent.

Trailmobile—G. A. Eichelberger & Co., Los Angeles.

Jordan Six—W. A. Swanguen, San Bernardino.

The Buick, Ford, Overland, Velie were displayed in the industrial tent, just outside the automobile section.

Other exhibits included: Haldeman Tire Co.; Fan Flame spark plugs, J. D. Maxfield, factory representative; Alemite Lubricator Co. of California, J. C. Dennerlen, representative; Wood hydraulic hoists and steel dump bodies; George Sherlock, Jr., San Bernardino, automobile tops; Sta Stuk, tire repair.

Chamberlain Heads Savage Sales.

L. S. Chamberlain, former Pacific Coast sales manager, has been appointed sales manager of the Spreckels Savage Tire Co., of San Diego, Cal.

Howard Motors Down Coast.

Charles S. Howard, head of the Howard Automobile Co., San Francisco, who motored to Southern California via the coast route, to serve as judge at the Speedway race and had to return for the show in his own city, startled the automobile world ten years ago with a trainload of Buicks valued at $133,109, as one order. In 1911 he bettered this with a trainload order worth $341,000. In 1912, in three months, he absorbed three trainloads, worth $867,999, and later in the year ordered $482,400 worth more. His distributing territory is Washington, Oregon, California, Arizona, Nevada.

FOR ROOSEVELT NATIONAL PARK.

On February 25 the Public Lands Committee of the Senate reported favorably on the Phelan bill for changing the name of Sequoia National Park, east of Fresno and southeast of Yosemite, in California, to Roosevelt National Park. As the Sierra Club and other organizations are represented in Washington, the outlook is that the change in name and dimensions of the park will be quickly accomplished. The area of 252 square miles is proposed to be increased by 1335 square miles to a total of 1587 square miles.

Cleaning Cars Its Specialty.

The Southern California Auto Cleaning Co., Capt. Sherwood W. Whitcher, proprietor, has opened in a 50x100 brick building at 1049 South Flower St., Los Angeles, and will make the cleaning and polishing of automobiles, by men of extensive experience, its specialty. Using materials of highest grade, and strictly hand work, is a strong feature. General battery work will be done. There is an extensive stock of accessories. There is storage capacity for 50 cars. The company has the agency for Hewitt tires and tubes.

Capt. Whitcher spent one year and a half in the second training camp at the Presidio, was commissioned a captain and was assigned to the 44th Infantry, regular army, at Camp Lewis. He went with the 8th division ammunition train to Camp Fremont, Cal., thence to Camp Mills, N. Y., and was to have sailed for France, baggage, etc., aboard the transport—when the armistice was signed.

WESTERN MEN OF GOODYEAR GATHER

Four-Day Meeting in Los Angeles by Company's Representatives from Whole Pacific Region.

The inaugural conference of the sales organization of the Goodyear Tire & Rubber Co. of California, recently held at Los Angeles, was one of the most enthusiastic and profitable conferences ever held by any gathering of Western men.

From the Canadian line to the Mexican border and as far east as a line drawn through Billings, Mont., Denver, Colo., and El Paso, Tex., the representatives of the Goodyear clan gathered at the summons of Vice President and General Manager A. F. Osterloh, for the initial get-together meeting of the service, branch and district managers identified with the western organization.

The conference lasted four days, under the direction of Sales Manager J. R. Reilly, considering products and policies and other business incidental to the maintenance of the western sales organization.

The program was initiated by a trip to the factory now being built in the south end of the city, where the managers were conducted through the rapidly rising factory units that compose the gigantic building project.

Among other things the men were shown a series of moving pictures recently taken on the company's rubber plantations in Sumatra, showing each successive step in rubber culture from the clearing of the jungles to the loading of the rubber on the great ocean freighters bound for the factories.

A banquet at the Alexandria Hotel ended the four days' activities. As a token of regard, the managers presented Mr. Osterloh with a magnificent bronze statue, "The End of the Trail," a copy of the one exhibited at the Panama-Pacific Exposition in 1915, which it was known he greatly admired.

The managers are now back in their respective branches and districts which embrace the entire great West, with a greater determination to perform their part in reaching the estimated western Goodyear quota of $25,000,000 worth of business in 1920, feeling that with the establishment of the $11,000,000 plant at Los Angeles, their fortunes have, in a greater degree than ever before, been linked up with the growth and development of the great West.

JOIN THE SHIP-BY-TRUCK MOVEMENT

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MANY NEW LINES IN LOS ANGELES

Rain Holds Easterners, Resulting in Unprecedented Number of Deals in Latter Part of February.

The last two weeks of February in the Los Angeles automobile field probably saw the coming in of more new motor vehicle lines than at any time in its previous history. This despite the fact that the contemporary San Francisco show drew heavily upon the Southern California trade for visitors.

The twice-postponed opening race on the new Los Angeles Speedway, however, held a great number of men high in the Eastern automobile factories in the Southland. This naturally facilitated the blossoming out of new distributing connections for a number of well-known makes of cars.

The Lafayette car, reflecting the ideas of D. McCall White, who also designed the Napier, the Daimler and the Cadillac Eight, will be represented in Southern California by the Troy Motor Sales Co., of Los Angeles, well known previously as Nash Six distributors.

The revived Stevens-Duryea will be handled in the Southland by Lynn C. Buxton, of Stearns-Knight distributing fame. This car from the earliest days of the industry up to the opening of the European war held one of the highest pinnacles among American cars. Its production has been resumed by a new company.

The Gardner Six appears with the McGill Motor Car Co., of Los Angeles, as California and Arizona distributor. J. C. McGill, the new firm's head, is widely known in baseball and sporting circles and is head of a large accessory house in Denver.

The Cunningham Eight has been taken for the Southland by the Elbe Motor Co., headed by W. L. Elbe.

The Davis Six is now distributed by the Rutledge Motor Car Co., in addition to the National car.

The Owen Magnetic is to shortly appear in Los Angeles, according to the Gaffney Motor Sales Co.

The Dixie Flyer will be distributed by Adolph Ott & Co. The Metz Six is now handled by the Magee Motor Sales Co.

The Doane truck, built in San Francisco, will be handled south of Tehachapi by the Doane Motor Truck Co. of Southern California.

According to W. A. Chapman, vice-president of the Skelton Motors Co., of St. Louis, Mo., the new Skelton car is to be seen soon on the Coast, where one of the agencies will be the Security Motor Co., of Los Angeles.

The proportion of dealers so fortunately placed as to be able to promise early deliveries is also unusually large. Among them are those handling Stephens, Pilot, Grant, Dixie, Holmes, Standard Eight, Nelson and Crow-Elkhart cars and Diamond T, Selden and Doane trucks.

New individual models lately arrived are the Cadillac Eight, Nelson sedan, Liberty town car, Haynes touring car, Dixie Flyer types and the Federal one-ton truck.

According to the Gaffney Motor Sales Co., Owen Magnetic cars will arrive in several shipments within the next few weeks. The allotment will not be large, but they consider themselves very fortunate in securing them for the Coast in face of the strong Eastern demand.

DOING VERY WELL, THANK YOU.

While it would not be correct to say that we have fallen upon a dead calm, it is true that there is a noticeable hiatus in some lines. The stock market is so badly demoralized that only the most hardy are risking their capital in its vortex at the present time. The bond market is also unsettled, new issues scarce and prices on a sliding scale. Retailers and public alike are going on the theory that the long-heralded break is likely to come soon, and each has somewhat curtailed his activities. Credit is not so freely extended as it was, and new undertakings are being held up pending further developments. Retail business, however, continues excellent; AUTOMOBILE AGENTS ARE STILL FAR BEHIND IN DELIVERIES. —Los Angeles Times.

After weeks of waiting the Magee Motor Sales Co. has received shipments of the new Metz Six models and now has them on display.

On American Six cars the Carpenter Motor Car Co. finds cars not difficult to get and expects in a short time to catch up on all back orders.

After having engaged in truck distributing for the past three years, the Gates-Kelley Automotive Co. has become a purely passenger car agency, discontinuing its connection with Jumbo and Smith Form-A-Truck and concentrating on the Californian car, a Los Angeles product, and the Paterson Six.

The Pacific Motors Corp. recently received a flock of new King Eight cars, which puts them in an enviable position; they lately reported having another trainload of 40 King Eights on the way.

Nine carloads of Velie cars have recently arrived in Los Angeles for the Lord Motor Car Co. and will be followed by a second larger shipment.

A large consignment of Roamer cars is due to reach the Southland soon is the word from W. D. Wright, resulting from his recent visit to the Eastern factory.

Nelson cars continue to arrive in Los Angeles, according to F. A. Nelson, enabling him to continue promising prompt deliveries.

Probably most prominent among the opening of several automotive firms in new quarters is that of the Albertson Motor Co., Dodge dealer, in its large two-story reinforced concrete building, of 55,000 square feet floor area. The "house warming" was attended by some 40 dealers from all parts of Southern California.

The Rutledge Motor Car Co., National Sextet and Davis Six dealer, has occupied its new sales building at 1140-42 S. Figueroa St.

Minto Is Makers' Representative.

Charles H. Minto, "dean" of the tire business on the Pacific Coast, has entered the ranks of the manufacturers' agents. Joining hands with James G. Cochrane, of Los Angeles, he has formed Minto & Cochrane Co.

Several high class automotive lines will be handled throughout the territory from Denver west. Among these is the Easy-Filled grease cup, of which the new agency will handle 1,250,000 in the West.

Offices will be maintained in San Francisco and Los Angeles, those in the former city being with the Easy-Filled Grease Cup Co., makers of the device.

Faulkner Banquets Moscovics.

F. E. Moscovics vice-president of the Nordyke and Marmon Co., Indianapolis, was given a banquet by Al G. Faulkner, California distributor of the Marmon, at the Los Angeles Athletic Club. There were 26 friends present, including Bert Dingley, traveling representative of the company, and J. A. M. ("Jam") Johnson, of the Royal Hawaiian Sales Co., Marmon distributor on the islands.

Bonner Tubes on Pacific Coast.

Bonner inner tubes, manufactured by the Story Rubber Corp., of New York City, will be distributed west of the Rockies by the West Coast Rubber Co., of San Francisco, Cal. Sales in the West will be pushed in an aggresive campaign, headed by Charles Williamson, sales manager of the San Francisco firm.

Le Fevre Joins Faulkner.

R. P. Le Fevre, a veteran, has resigned as district manager for the Nordyke and Marmon Co. in the Northwest and has joined the sales force of Al G. Faulkner, California distributor of Marmon cars.

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TAKE JOINT SALE FOR THREE LINES

Selden, Jackson and Martin Will Be Represented on Coast by L. M. Field Organization, San Francisco.

Striking news coincident with the recent San Francisco show was announcement of the establishment, in San Francisco, of consolidated offices representing the Selden Truck Corp., of Rochester, N. Y.; Jackson Motors Corp., Jackson, Mich.; and Martin Truck and Body Corp. (Atlas Speed Wagon), Indianapolis and York, Pa.—all makers of trucks, and Jackson also making passenger cars. The representative for Washington, Oregon, California, Arizona, Nevada, Utah and Idaho is L. M. Field, Inc.

L. M. Field, president is well known as an able organizer and sales executive. E. S. Nevins, vice-president, is a trained bank manager. Walter Kelly, office manager, was traveling auditor for Willys-Overland. T. M. Cornell, in charge of advertising and sales promotion, of ample newspaper and advertising experience, comes to the organization from a well known financial journal. B. W. Hewitt, statistician, will do research work for the benefit of dealers. The territorial managers are H. L. Loper, J. D. Dawson, F. G. Sanford and J. G. Williams, each familiar with his field.

State Trade Body Prospers.

Robert W. Martland, secretary of the California Auto Trade Association, recently returned to Oakland headquarters after covering Southern counties and attending the Southern division meeting in Riverside, January 30-31, at which about 300 gathered from every trade and craft associated with the industry. The Government gave the delegates a flying circus at March field. One stunt was wireless telephony, using the Magnavox, developed at Napa. All within 100 feet of the receiver on the ground heard the aviator talk. Mr. Martland's trip showed business good everywhere.

Coast Agencies Organized.

The Associated Advertising Agencies of Southern California has been organized for various purposes, including co-operative analysis of advertising problems, such as print paper shortage and, on the whole, maximum service to clients. A. Carman Smith is chairman; J. W. Johanett, secretary. The membership includes Dake Advertising Agency, Dan B. Miner Co., A. Carman Smith, C. R. Stuart, Joseph G. Lemen, H. N. Lockwood Co., R. J. Culver Co., Bates, Harrison & Janes, Crank-Paris Co., the McCarthy Co., and Woodside, Brown & Hanna.

Firestone Bowlers Contest.

The San Francisco branch team won the national Firestone bowling contest, which was conducted by telegraph by Ed. Day, the company's director of recreation. The San Francisco team of five rolled up a total of 2,758 pins, defeating 64 other branches and winning the A. G. Partridge championship trophy. The Golden Gate quintet also won the L. G. Fairbank cup for the highest score in a single game, by knocking over 967 pins in the second game. The St. Louis team was second, 2,646; Fargo, N. D., third, 2,548; Buffalo, N. Y., fourth, 2,409. Great Falls, Mont., 2,304, was among the runners-up. Austin Doyle, of St. Louis, won the E. W. BeSaw cup for highest individual average, 643.

L. M. FIELD,
President of L. M. Field, Inc., San Francisco, representing Selden, Jackson and Martin lines.

This is said to have been the first national telegraphic bowling contest. Scores went to Akron after each game. Probably it will be an annual affair.

Large Field for New Inner Tube.

With plans to establish hundreds of branch agencies in this territory, C. R. Privett, Pacific Coast representative of the U. S. Compression Inner Tube Co., of Tulsa, Okla., has opened offices in the Citizens National Bank Bldg., Los Angeles. His field includes the seven Far Western states.

Plans are being formulated at Tulsa to build a million-dollar tire and tube factory in or near Los Angeles. Tire casings will be manufactured, but the chief product will be a puncture-proof inner tube. This is so molded that its deep corrugations permit it to slip easily into a casing.

STEVENS-DURYEA TAKEN BY BUXTON

Angeleno Made Southern California Distributor for Famous Line Which Is Again on Market.

The Stevens-Duryea car, famous at the very dawn of the automobile industry and for twenty-two years holding one of the highest places among American cars, has been revived and will soon appear in Southern California, where distributing rights have been secured by Lynn C. Buxton, a long established Los Angeles dealer.

In 1892 the first Duryea wagon made its appearance. In 1895 the Duryea won the Chicago Times-Herald race and in '96 strengthened its reputation at the Cosmopolitan contest in New York. Next year Stevens-Duryea engineers invented the three-point engine suspension; in '98, the three-speed transmission, and in 1904 the unit housing and multiple-disc dry-plate clutch.

In 1905 came the first American six-cylinder car, the Stevens-Duryea. From then on to 1914 it held a pinnacle enjoyed by few other cars. Production ceased in 1914. The revived Stevens-Duryea, Inc., of Chicopee Falls, Mass., enters the field where the old company left off.

Interesting also is Buxton's announcement that Roy H. Heartz, former general sales manager of the Moreland Motor Truck Co., will act as general manager of the Buxton organization.

Warning By Used Car Dealers.

Tourists—those who buy used cars and sell them later—were recently informed by the Used Car Dealers' Association of Southern California, in a newspaper advertisement that investigation showed there are between 200 and 300 persons in Los Angeles who make a practice of selling automobiles from their place of residence, advertising in such a manner as to make believe a privately owned car is being offered for sale, when in fact the car has been purchased for re-sale only. The association says that as no service guarantee or responsibility goes with such sales, purchases should be from recognized dealers.

Heads Sales for Albertson.

Sales of Dodge cars with the Albertson Motor Car Co., of Los Angeles, are now under direction of H. E. Woodward as new sales manager. He joined the Albertson sales force at the company's beginning and previous to that was connected with the Packard agency in New Orleans.

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SHOW WEEK MAKES BAY CITY HUSTLE

Practically All of February Given to Activities in Connection with Imposing Exposition.

Throughout nearly the entire month of February business activities and the daily lives of San Francisco automobile dealers have centered about the south end of Van Ness Ave., within the walls of the imposing Civic Auditorium, where the Fourth Pacific Automobile Show was prepared, held and closed with a volume of prosperity and success surpassing all previous efforts.

Automobile men, whose names are familiar the country over among the trade, thronged the city by the Golden Gate to attend what may be considered the third national automobile show of 1920. One result was the usual harvest of new distributing connections for cars, trucks and all classes of automotive products.

The Lafayette car has been secured for the Northern California territory by the Greer-Robbins Co. Announcement of the new agency coincided with that regarding the opening of distributing connections in Southern California with Lynn C. Buxton, of Los Angeles.

The Californian car, a high-grade vehicle built in Los Angeles, has been taken by Trowbridge & Hess, who have opened new quarters at 851 California St.

The Piedmont, manufactured at Lynchburg, Va., has extended its distribution field to the Coast, the Standard Auto Sales Co. taking the agency for Northern California, Nevada, Oregon and Washington.

The Monitor Six has been added to the Saxon agency by the F. L. DuBroy Motor Co.

The Comet Six has been taken for Northern California and Nevada by the California-Nevada Motor Co.

New models of well-established automobile lines have thronged into San Francisco thick and fast to be displayed at the Pacific Automobile Show. Stocks held by the dealers have risen correspondingly. Offsetting this is the heavy demand created during and following the show to be met.

Optimism usually glows warmest during show time, but the shortage of railroad freight cars has been the cause for forebodings among many dealers. Unless the shortage of railroad rolling stock for carrying automobiles out of Detroit and nearby centers is soon relieved, many of the largest car and parts making plants will have to close down, in the opinion of W. J. Richardson, of the Chester N. Weaver Co., resulting from a recent Eastern trip.

"Like every other man in the trade," says Richardson, "I believed that most of the talk about low production was propaganda designed to start early buying. Before I was many hours in Detroit I was convinced that the industry today faces conditions worse from a producing point of view than during the darkest days of the war.

"Detroit is congested with automobiles awaiting shipment. Frantic calls by manufacturers for freight cars to move them are answered by equally frantic statements of the railroad officials' inability to get the necessary cars.

"Meanwhile, dealers anxious for immediate deliveries within a 500-mile radius of Detroit are driving an average of 2,000 cars a day out of the city through slush and snow—a pathetic sight to one knowing the tremendous demand for cars all over the country.

"The supply of freight cars to carry automobiles will meet only 20 per cent of the actual need, according to a railroad official in Detroit."

WEAVER'S TRAINLOAD IDEA.

Buying a train of freight cars with which to transport Studebaker automobiles from the factory at South Bend to the Pacific Coast, chartering locomotives en route, and returning the freight cars empty to the factory for the next load—that is what the Chester N. Weaver Co., of San Francisco, did. It was done while Mr. Weaver, W. J. Richardson and Hart Weaver were in the East for the Chicago national show.

There is no telling, Richardson states, whether or not there will be a complete stoppage in the westward shipment of automobiles, although Western dealers have been receiving fairly early shipments, enabling many to make immediate deliveries.

Car production during 1920 will fall even farther behind demand than during the race in 1919, says J. W. Frawley, of the Frawley Motor Co., who also returned home recently from the East. Many persons who thought to buy their new cars this coming summer will be disappointed, he predicts.

"The shortage in production will mean an increase in prices. I know of manufacturers who are buying bodies from three different factories in the hope of keeping up with orders. Everywhere conditions were the same. Unfilled orders are piling up at all factories. Materials are becoming more and more difficult to obtain, being bought in the face of a constantly increasing market.

"Labor is still restive. The disturbances of the past few months cut deep into the makers' production. What will happen when spring opens up roads in the East and car demand reaches full strength can only be imagined. We can only hope that California gets through most of her orders before Eastern demands swamp the factories."

Quite a few San Francisco dealers, on the other hand, have promise of larger allotments in the near future. According to Tony Holbeck, general manager of the Roamer Motor Car Co., since he returned from the factory cars have rolled westward in a steady stream, to be delivered as fast as they arrive. The Roamer factory has promised to double its allotment and the San Francisco dealer will soon be able to promise immediate deliveries.

The Howard Auto Co., Buick dealer, announced recently that it had already delivered 5,000 of the new 1920 models, but still promises delivery only in rotation.

Shipments of Standard Eight and Commonwealth cars are arriving every week now, reports the White-Humphries Motor Co., but the demand permits no stocking up on cars.

According to W. J. Benson, Stephens Salient Six agent, the factory is fairly swamped with orders. He succeeded in getting a larger allotment, but not as much as he expected. Deliveries have been few and far between for the last few months and his company has been having a busy time trying to get enough cars to fill orders.

The new Cunningham car agents, Kennedy & Boukard, find the demand has exceeded their allotments ever since the agency was opened in San Francisco. They are now located in their new sales quarters on Jackson St.

L. D. Allen, of the California Motor Sales Co., expects shipments of Cole Aero Eight cars to increase greatly in the future, due to his visit to Indianapolis. He is another dealer who laments the freight car shortage.

"When production gets to going smoothly," Allen complains, "the government throws a wrench into the machinery by failing to provide enough automobile freight cars for the makers. Instead of 50-foot cars we are compelled to use 36-foot cars—the difference being that 50-foot freight cars bring us three automobiles to a car, 36-foot cars, two automobiles to a car."

San Francisco has become hardened to the announcements of new buildings of department-store proportions to be erected by local dealers. The latest one is that for the Pioneer Motor Co., distributing Peerless cars and Republic trucks. It will be located at Van Ness Ave. and McAllister St. and will have four stories and 95,000 square feet of floor space.

Construction will be reinforced concrete, finished with a light granite texture conforming to the San Francisco city hall. Cost of building will be about $185,000.

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SEATTLE SURELY WOULD LIKE CARS

Inadequate Railroad Facilities and Strong Eastern Demand are Felt by Dealers in the North.

Shortage of railroad freight cars, the failure of numerous factories to realize so far their full 1920 production schedules and the expected early opening of the strong Eastern demand are the reasons why many automobile dealers in Seattle have given up hope of overtaking the demand for cars this year.

They feel that 1920 will be but 1919 repeated, with the volume of orders always scampering hopelessly far ahead of cars to fill them with. Conditions at the Eastern plants and demand in the Pacific Northwest give a shadow and sunlight contrast, when compared.

Not enough freight cars is the reason for the depreciated railroad service the country is now suffering, is the opinion of the Chilcott-Nash Motor Co. A shipment of 150 carloads of Nash cars took only six days between Minneapolis and Seattle. Half of this consignment was switched off at Spokane to meet the needs of Eastern Washington dealers, the other half went on to Seattle.

J. Walter Hainsworth foresaw the disruption of railroad service last winter and now has enough Oldsmobile cars stored in local warehouses to take care of spring orders.

Among cars upon which early filling of orders is announced as being possible are the Oldsmobile, Nash, Stutz, Chevrolet and Dixie Flyer. New individual models recently arrived are the Standard Eight closed types, Willys-Knight Four, Diamond T truck, Dixie Flyer touring car and Republic truck.

The Yakima farming region continues to be one of the best automobile-buying centers in the state, according to the Shields-Livengood Motor Co., handling Liberty and National cars and Traffic trucks. They report an especially eager demand for trucks and the Yakima dealer's allotment of Traffic trucks for 1920 has already been entirely contracted for.

Two carloads of Dixie Flyer cars recently reached the Puget Sound country for the Dixie Motor Co. The new Pilot Six dealers, the Stewart Motor Co., have already sold two carloads of machines, they recently announced.

Before he left Kokomo, Ind., recently, F. J. Kimball saw five carloads of Apperson cars leaving, destined for Seattle.

The Great Western Motors, Inc., Paige car and truck dealers, recently published some interesting figures concerning the growth of their sales in the past four years. In 1916, when the firm started, they sold 216 cars; in 1917, 426; in 1918, 580; and in 1919, 612. Their 1920 plans call for selling 1,200 cars and trucks.

Two important changes in the truck-selling field are those relating to Day-Elder and Diamond T trucks. The Vernon A. Smith Motor Truck Co., for three years Diamond T truck dealer, has bought the interests of the Day-Elder Motor Truck Co., local agents for Day-Elder trucks.

Vernon A. Smith will handle Day-Elders only, continuing at the same location, 511 E. Pike St. James H. Goodrich, president of the previous Day-Elder agency, has become sales manager for Smith.

The Diamond T truck agency has been taken over by a new firm, the Diamond T Truck Co. of Washington, headed by Robert F. Hall, a former Chicago business man, with quarters at 1122 E. Madison St.

Within less than two months, dating from Dec. 15, the Denby-Mantell Co. unloaded and sold 27 Denby trucks, reports C. S. Mantell.

The Stutz agency, the Parson Motor Car Co., has opened in its new home at 1515 Melrose Ave. Their quota of cars this year, says Jim Parsons, will be double that of last year and may be still greater, in view of additions to the factory at Indianapolis.

The Stewart Motor Car Co., Northwestern dealer for the Pilot Six, will occupy its new building, 1518 Thirteenth Ave., about March 15.

The Diamond T Truck Co. of Washington has opened at 1117 E. Union St.

The Great Western Motors, Inc., has a new home in course of erection at Broadway and Union St., fronting 105 feet on Broadway and 165 feet on Union.

Crow-Elkhart Meet in Arizona.

At a meeting of the stockholders of the Crow-Elkhart Motor Corp., of Elkhart, Ind., directors were elected and they elected J. A. Harps, president; C. S. Drake, first vice-president; M. E. Hoshaw, vice-president; R. B. Donaldson, vice-president, assistant and general manager; D. C. Thomas, secretary and assistant treasurer. Other directors are M. C. Miller and C. B. Lair. Robert R. Mills was also elected but has since died.

The 1920 schedule is for 5,000 cars, with all funds provided for and everything contracted for. Extensions are contemplated with a view to producing 10,000 in 1921. The Crow-Elkhart models exhibited at New York, Chicago and elsewhere won admiration for pleasing design, luxurious finish and appointments and staunch construction.

SPOKANE DEALERS DEFYING DEMANDS

Gauntlet Is Thrown Down to Men Who Ask Ninety Cents an Hour—Over Forty Shops Now "Open."

Automobile dealers and garage operators of Spokane, Wash., have thrown down the gauntlet to motor car mechanics who have organized under a national charter. In each of forty-three garages in the city four placards were posted recently announcing the "open shop" and reading as follows:

The notice is signed by forty-three garage proprietors and automobile dealers and according to leaders of the auto industry, others ill with influenza when the list was circulated, are signing. It is asserted that the movement includes 100 per cent of Spokane's garages.

"We, the undersigned, have considered the advisability of a union among the garage workers and our conclusions are as follows:

"First, we believe in the American plan, or open shop, therefore unanimously adopt it.

"Second, we believe in a square deal for labor, but we refuse to be dictated to by radical union leaders.

"Third, we know that differences between ourselves and employes can be adjusted satisfactorily, as in the past and we will not consider outside agents taking parts in affairs that do not concern them, other than a pretense of collecting dues and creating a soft job for themselves.

"Fourth, we believe that each man is his own boss and it is his privilege to work when and where he pleases. From the standpoint of employer and employe the American plan promotes harmony, harmony being essential to the success of both.

"Fifth, there will be no wage disputes. It is up to the employe to show his worth and he will be paid accordingly. Loyalty and efficiency are the deciding factors of your income. The set scale of wages is unfair to the individual workers.

"Sixth, the motor car dealers and garages take this method of making known their definite stand for the American plan. We will protect and continue to employ and advance those employes who believe in the American plan."

Acting at the suggestion of the excutive committee of the Spokane Automobile Chamber of Commtrce, employers of mechanics have held three meetings at which plans were discussed to negotiate with heads of the proposed union movement.

It is asserted that garage operators have been threatened with a general walkout, slated for April 15, unless demands of the mechanics for 95 cents an hour are met. They now get 80c.

Operators assert the demand is for a flat rate of 95 cents an hour throughout the shop including mechanics, car washers, roustabouts and others. The demands are said to further insist upon an eight-hour day with Saturday afternoon off.

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PLANE LANDINGS MOVEMENT BEGUN

Provision to Solve Problem Easily Is Made in Two National Highway Measures in Congress.

In two new national bills, introduced February 23 by Representative John E. Raker, provision is made for aviation landings of from 20 to 60 acres, in conjunction with state and national highways. The idea, devised by Wisner Gillette Scott and illustrated in "Motor West," means widening highways at 50-mile intervals. It would largely solve a problem otherwise difficult for many communities. It is heartily approved by K. M. Turner, president of the Aero Club of Southern California and vice-president of the Aero Club of America.

The new bills are practically former ones amended—H. R. 9313, for a survey to adapt main Coast highways to military needs, and H. R. 10921, for a national system of highways to be selected by regional gatherings and supervised by a national department of highways.

Aero Club Elects Directors.

At a most encouragingly full meeting, which lasted till midnight one night last week, the Aero Club of Southern California adopted constitution and by-laws and elected the following directorate:

K. M. Turner, of Turner, Kuhn & Fraser, cotton brokers, Los Angeles.

L. D. Sale, ex-president, Los Angeles Chamber of Commerce, and President, Western Wholesale Drug Co., Los Angeles.

J. L. Hisey, president, Los Angeles Grain Exchange, Los Angeles.

W. L. Valentine, secretary-treasurer, Climax Motion Picture Manufacturers, Los Angeles.

Hon. Albert Lee Stephens, attorney at law, Los Angeles.

Maj. Max I. Fleischman, of United States Air Service (identified with Fleischman Yeast industry), Santa Barbara.

A. M. Andrews, well known banker of Pasadena.

Tod Ford, formerly of the Lafayette Escadrille in overseas service, Pasadent.

L. C. Brand, president, Title Guarantee & Trust Co., Los Angeles, and owner of private airplanes, for his personal use.

President Turner announced that the $25,000 donation for contest purposes, mentioned at the previous meeting, had been made by A. M. Andrews, Pasadena banker. He mentioned the important legislation introduced in Congress through the co-operation of W. G. Scott, for landing places on highways, and the assurance from Congressman Randall of a mail route via Albuquerque, with Los Angeles the terminus on the Coast. He announced acceptance of honorary vice-presidencies by General Pershing and Admiral Rodman. Maj. Charles Glidden, founder of the Glidden tours, wired he would gladly serve on the board of governors. Henry Woodhouse wired, offering to pay $600 for 200 subscriptions to "Flying" for the first 200 members.

Capt. H. C. Mustin, commanding the seaplane fleet at San Diego, flew up to attend the meeting, was W. G. Scott's guest for the night and after breakfast next day flew back, 152 miles in 1 hour 35 minutes.

Long Coast Flight Success.

Maj. Albert D. Smith flew from March field, Riverside, Cal., the morning of February 12 for a jaunt up the Coast. He proved the practicability of aerial travel by safely reaching Seattle on February 20 despite fogs, difficulty in finding suitable landings, and some engine trouble.

The purpose of Major Smith's trip was to arrange for aerial forest patrols in the state of Washington. He asked the War Department for permission to try for a one-day flight, 200 miles, Seattle to San Diego, with stops at Eugene, Ore., and Red Bluff, San Francisco, Fresno and possibly Riverside.

Governor's Co-operation Promised.

Governor Stephens of California has promised co-operation in bringing about a conference, probably in San Francisco during the aero show there in April, of representatives of aero clubs west of the Rockies, to form a federation. To put the plan before Governor Stephens, Col. H. H. Arnold, air service officer of the Western department of the army, went by plane from San Francisco. Others in the "sky party" were Maj. Loring H. Pickering, Oscar L. Cough, Albert Michelson and Louis B. Jacobs.

To Train Sky Rangers.

At the recent San Francisco meeting of Forest Service officers it was agreed that an aviation school for rangers and assistant forest supervisors should be established, as the result of successful patrols under Supervisor Charlton, during the 1919 forest fire period. The War Department acted immediately, and on February 20 twenty men reported at March field, near Riverside, Cal., for 30 days' intensive training and study in operating planes, observation, wireless, meteorology, aerial photography, map-making and liason work. The twenty students included ten from California, five from Oregon and Washington, five from Idaho and Montana. E. I. Kotok, in charge of fire co-operation work in the district office in San Francisco, was put in temporary charge. Associated with him is J. E. Elliott, of the Stanislaus reserve, who came by airplane, and Don P. Johnson, assistant district forester.

El Centro to Have a Field.

The city trustees of El Centro, Cal., and the U. S. army have arranged for a 40 acre aviation field there. The Government is to erect a steel hangar and the city is to pipe water to it.

It is expected establishing this field means abandoning the one at Calexico, lessening the straying of planes into Mexico. Lieutenants Usher and Wolf, members of the Twelfth Aero Squadron, who made a forced landing in Mexico February 2, were released after 20 days' nominal captivity at Nacozari, Sonora. The same day, Mexican aviators stationed opposite Eagle Pass, Tex., crossed into this country with floral offerings for the funeral of Lieutenant Corey of Chicago, who was killed by a fall there the day before.

Arcadia School Site Bought.

It is reported from Washington that the Government will purchase from Anita Baldwin, daughter of "Lucky" Baldwin, for $50,655, the army balloon school site at Arcadia, near Los Angeles. The item was included in the army appropriation bill passed by Congress.

L. A. Aero Show Postponed.

Los Angeles was to have an aero show and meet late in April. It has been postponed until autumn. Reasons: Desire to not interfere but to help in making a success of the San Francisco show to be held April 23-May 2; and the fact that by autumn the Goodyear field will be fully equipped for the Los Angeles meet.

Lloyds After Air Data.

The Puget Sound agents of Lloyds, the marine registry and insurance organization of London, report from Seattle that agents throughout the world have been asked to send to the home office regular data on aircraft as they now do on shipping.

Rickenbacker to Take Rest.

Capt. Edward V. Rickenbacker, ace of American fliers, is reported as intending to come from the East to rest in the mountains in Southern California, and that afterward he may engage in business on the Coast.

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EASTERNER NOTES HOW WE USE 'EM UP

Chicago Visitor Says Coast Beats All in Proportion of Automobiles Worn to a Finish.

Conversations with automobile trade men and journalists who came to the Coast for the Los Angeles speedway events, the San Francisco show were interesting. They saw things we are so accustomed to we do not notice them.

Charles P. Root, of Chicago, who will manage the coming important Midwest motor truck tour, and the Glidden coast-to-coast tour in September, and who officiated as referee at the Los Angeles speedway opening, February 28, was impressed by the used car establishments. He declared he had not seen such a percentage of apparently used-up cars anywhere else in the country.

The fact made plain is that the prevalence of good roads and good weather throughout the year makes it possible to wear an automobile down to the last frazzle—to the point where it is practically junk. Not that there are no worth-while used cars; there are many, and the business is profitable; but the proportion of automobiles in constant use, and used to the limit, is high and obvious to one who compares collections on the Coast and elsewhere.

A natural result of this constant use of machines is a large number of replacements with new cars—probably the largest percentage in the country. The national average is estimated at about 1 in 5, or about 1,500,000 on the basis of a total of 7,000,000. This should be comforting not only to dealers in new cars, but to men with an eye to the opportunities in so-called junk. A man in Chicago is said to have made a fortune by buying used-up cars, disassembling them and carrying a stock of parts for resale.

F. Ed. Spooner and others from the Middle West visited Root's orange grove near Los Angeles. On the way Spooner noticed a swarm of multi-colored humanity, camped at the roadside. Gypsies—and not a horse in the outfit. Having their outfits carried separately, they had traveled to the spot in topless automobiles.

Skelton to Be Seen on Coast Soon.

The new Skelton car, built by the Skelton Motors Co., of St. Louis, is soon to make its appearance on the Pacific Coast, where it will be distributed by the present Skelton distributing branches, among which is the Security Motors Co., of Los Angeles. Such first-hand information was brought to the Coast recently by W. A. Chapman, of Los Angeles, now vice-president of the Skelton plant, and who remains general manager for Skelton interests on the Coast.

The new car sells at $1,245 factory. It has the Lycoming four-cylinder engine of 3½x5 bore and stroke, Carter carburetor, Borg & Beck clutch, Muncie gearset and Peru rear axle. Wheelbase is 112 inches.

L. A. to Have Motor Truck Show.

Inability to secure a building of proportions of the magnitude needed to accommodate an automobile show which would be properly representative of the importance of the Los Angeles automobile field is the reason why Los Angeles dealers have decided to definitely abandon all plans for staging the annual Los Angeles automobile show in the spring or early summer.

In view of this, R. M. O'Neill, who has promoted or managed exhibits of motor trucks and tractors in various cities on the Coast, is arranging for a motor truck show at Praeger Park, March 27-April 3. Accessories related to truck operation will also be exhibited.

Gardner Six Reaches Coast.

Distribution of the new Gardner Six car, built in St. Louis, Mo., has extended to the Pacific Coast with the taking of agency rights in California and Arizona by a new firm in Los Angeles headed by J. C. McGill, of baseball and sporting fame and head of a large accessory house in Denver.

Commodious quarters are now nearing completion for the McGill Motor Co. on Figueroa St., north of Pico. Chief executives for McGill are W. S. Rodgers and H. H. Canoll, both with years of automotive experience.

"King" Kelly Visits Coast.

Charles F. U. Kelly, known throughout the automotive world as "King" Kelly, and head of the sales department of the Raydex Mfg. Co., Brackenridge, Pa., came to the Coast after the Chicago show to place distributing agencies. Raydex products include shaftlights, glassless lenses, re-liners for Ford transmissions, spotlight, etc. The Raydex spotlight is an "aristocrat," made of silver, aluminum and brass, equipped with the Raydex glassless, glareless lens and throwing a clear, powerful, penetrating beam, with all glare eliminated and no loss of light. The universal bracket fits any car. The glassless lens is of polished metal. Each lens has more than 9,000 reflectors which concentrate and intensify the beam. There is no absorption or diffusion and it is claimed the lens is legal in every state.

A CHANCE TO AID TRAFFIC OFFICERS

Small Dues Enable All to Help Pay Cost of Important Convention to Study Safety Problem.

At a meeting of the committee of the National Traffic Officers' Association, in San Francisco, it was decided to admit motorists and others interested in the safety-first movement. Robert W. Martland, secretary of the state body of dealers, presided. Applications should be sent with $2.50 to Dan Sylvester, lieutenant of police, San Francisco, and as the success of the idea means many lives and dollars saved, this slight support by all is urged.

The association, of which Lieutenant Sylvester is president, will hold a national convention in San Francisco's civic Auditorium in August. Attendance will be country-wide. A great display of safety devices will be made, and factory experts will explain them.

The whole object of the association's conventions, state and national, is to reduce street accidents, and to work for standardized traffic laws for motorists' convenience everywhere. The increasing street congestion is a grave problem; and the enormous production of automobiles this year will make it acute, and the need of concerted action greater.

The money from associate members will help defray the cost of the national convention in August, and to bring to it valuable traffic men who cannot afford to come "on their own." These men usually are in smaller towns, and their opinions are always of much assistance. The movement is growing daily and the convention promises to be the greatest ever held.

General Motors Men on Coast.

George Jessup, technical representative of W. C. Durant and in charge of technical matters for General Motors; A. B. C. Hardy, vice-president of General Motors, and Joseph Riply, of Flint, Mich., who is associated with W. C. Durant in Samson tractor interests, recently visited important Pacific Coast centers, including Oakland, where the Chevrolet factory for the Coast is, and Stockton, where Samson tractors are made.

Californian Car in Northern Cal.

The Californian car, manufactured in Los Angeles and for which the Gates-Kelley Automotive Co., of the same city, has been named distributor, will be handled in the Northern California territory by the firm of Trowbridge & Hess, of 851 California St., San Francisco.

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San Francisco Show a Practical and Artistic Feast

Attendance of Dealers, Many from Far-Flung Localities, the Predominating Feature of the Fourth Annual Pacific Automobile Exhibition; Significant of its own Great Value to Them and a Case of East and West Profitably Brought Together

THERE is just one exclamation that fits, covers and comprehends the Fourth Annual Pacific Automobile Show, held in the Exposition Auditorium, San Francisco, February 21-28, and that is—"Some class!" It is warranted by the exhibits, and by the decorative tout ensemble, which the architects, Clarence Ward and Harry Blohme, and the noted Dutch-California painter, Ledeboer, and his coworker Leo Lentilli, so handled as not only to provide a scenic setting remindful of the mountains and valleys of Yosemite, seen between columns of temples, but a perspective illusion by which the interior area seemed at least one-third larger than it really was.

The attendance was all that could have been desired, as to the general public and particularly as to trade men from afar. It was an exemplar of such meetings of the East and the West as create mutual understanding of problems impossible to solve through the medium of postal service. It gave Pacific Coast dealers and distributors opportunity to talk directly to, and be talked directly by, the factory men. It healed discrepancies of opinion and temperament. It cemented old friendships and made new ones. It was a success with a big S.

Reverting for a moment to the show as a picture, which none who saw it will ever forget: Willis Polk, arbiter in things architectural on the Pacific Coast, described the setting as "deserving perpetuation in enduring marble. The panoramas of California's scenic wonders alone are worth countless thousands of dollars to the state's enterprises and industries." That's good business, in addition to the great volume of actual business done.

Roughly speaking, the exhibits of passenger cars, motor trucks, tractors, trailers and accessories represented at least a million dollars. It was a satisfying show for the men of the Coast who are far from the centers of such things, and who must have gone home from San Francisco with new vision and accelerated vim, as to the development that lies just ahead, to be consummated by those who realize the possibilities of motor vehicles, tractors and good roads.

The show opened with a bang, Saturday night, February

VIEW OF INTERIOR OF SAN FRANCISCO MUNICIPAL AUDITORIUM ON OPENING NIGHT OF PACIFIC AUTOMOBILE SHOW.

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21. Next day, Sunday, it swarmed. Monday, there was a crush; and so on throughout the week, with Wednesday the chief day for dinners, and "music playin' all de way," not to mention lectures, both free and nourishing.

To report the show from a mechanical standpoint would be superfluous. Sixes predominated among the passenger cars, moderate sizes prevailing among the motor trucks. There were some first appearances, which are mentioned in "Motor West's" notes of the show. The basic body lines of a year ago still prevail. The improvements are mostly in details. More engines have overhead valves, and fuel necessities have caused redesign of carburetion.

The most practical evidence of the value of the show was the large attendance of dealers from many far flung places. They were a predominating feature. They knew what they were there for, and they got everything they came for except promises of early delivery.

San Francisco Show Notes.

The number of passsenger car exhibitors was 45; truck and tractor, 42; accessories, 60. The actual number of passenger cars exhibited was 54; trucks and tractors, 55; accessory lines, 80. The display space, totaling 108,000 square feet, was divided thus: For passenger cars, 60,000 square feet; trucks and tractors, 33,000; accessories and appliances, 15,000.

B. H. Pratt, vice-president and general manager of the Federal Tire & Rubber Co., is calling on Coast distributors of Federal and Fisk tires.

A number of trade men left Friday for Los Angeles, to attend the 250-mile race.

Perhaps, along about Friday, some of the Easterners noted that it was 8 above, in Chicago, 4 in Buffalo, 16 in New York.

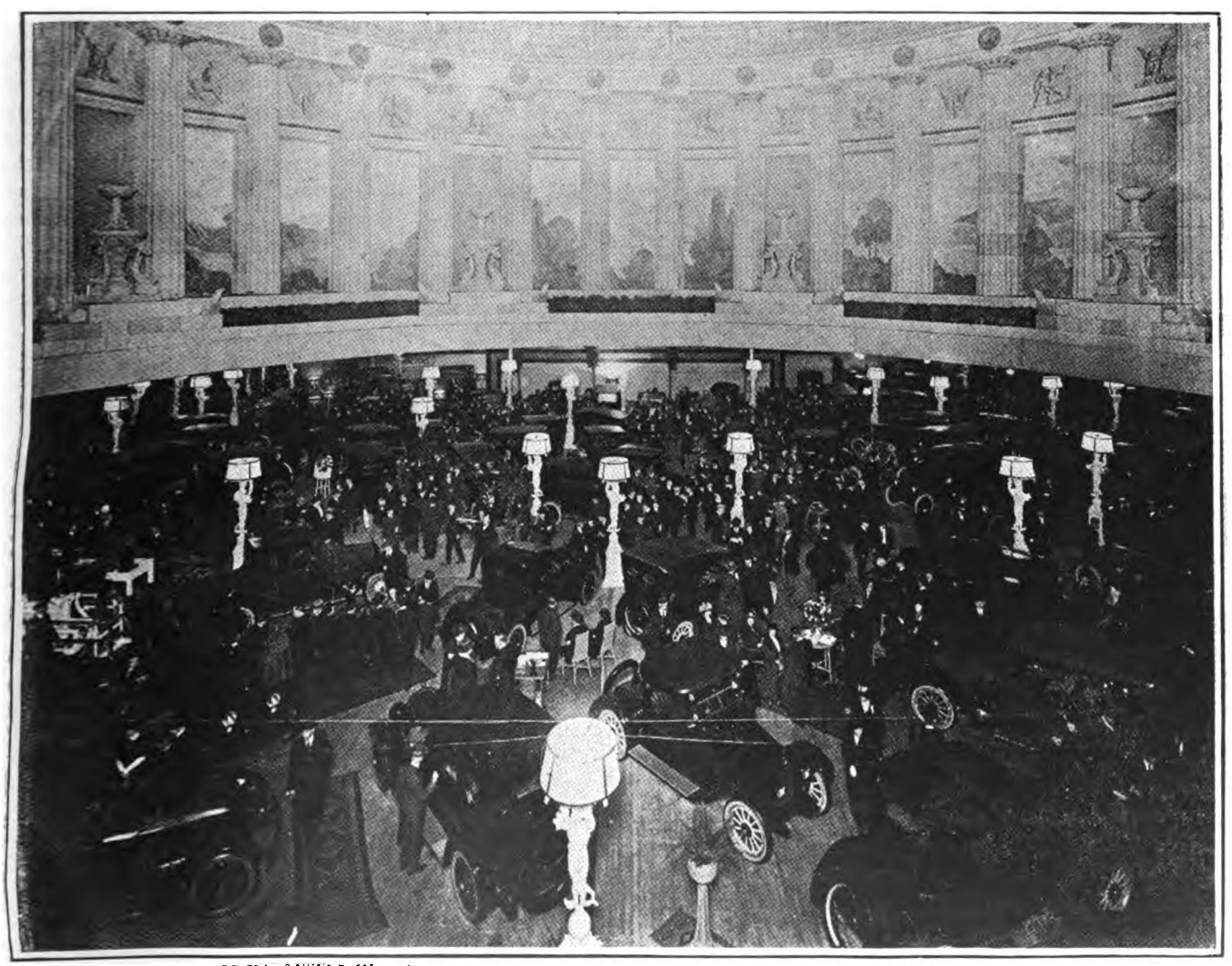
The day after the show opened, the Hartman Motor Co. had this ad in a newspaper: "I need a real live salesman. The right man can name his own salary."

The Old Timers' Club, originated at the Eastern national shows, enrolled many members. There are no dues or assessments, Five years in the business qualifies applicants.

The Lee trailer, distributed by the William L. Hughson Co., an exhibit of the addition of practical hydraulic brakes, particularly for mountain roads. The brake is operated from the driver's seat, slight pressure having effect. Four attendants were busy answering questions.

Watt L. Moreland, general manager of the Moreland Motor Truck Co., Los Angeles, did business and gave the products of Eastern competitors the once or twice over.

Heads of Willard service stations in Northern California met at the St. Francis for the fifteenth of a series of sixteen sessions being held in California. They convened on Wednesday, Thursday and Friday, the Saturday meeting being slated for Los Angeles. Sales Manager S. W. Rolph, Sales Promotion Manager H. S. Bentley, and Ad-



ANOTHER VIEW OF AUDITORIUM, SHOWING ELABORATE DECORATIONS AND IMMENSE CROWDS PRESENT ON OPENING NIGHT.

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vertising Manager S. E. Baldwin spoke. District Manager N. G. Wolf called the conference.

H. A. Conlon, vice-president of the Acason Motor Truck Co., arrived during the week, having driven from Los Angeles with Dan Gilkey, of the Acason Motor Sales Co., San Francisco, which had a show of its own.

Sandow motor truck dealers in Northern California and Nevada were given a dinner February 24 by L. D. Allen, president of the California Motor Sales Co., Sandow distributors. William Schultz, general sales manager, from the Sandow factory, was there, He is a veteran in the industry. Most of the Sandow dealers also handle the Cole Aero-Eight.

Many dealers responded to the announcement, given large advertising space in the San Francisco papers, that territory contracts would be written in many principal cities in California, Oregon, Washington, Arizona, Nevada, Idaho and Utah, for the Selden Truck Corp., Rochester; Jackson Motors Corp., Jackson, Mich.; Martin Truck and Body Corp. (Atlas Speed Wagon), Indianapolis and York, Pa.—all making trucks, and Jackson also making pleasure cars. Dealers were invited to the companies' consolidated offices in the Western States Life Building, San Francisco, by L. M. Field, Inc., Pacific Coast representative.

The Frawley Motor Co., of San Francisco, Mitchell distributor, has benevolently assimilated George L. Moscovics, who aided and abetted the plan by resigning as advertising manager of the Mitchell Motors Co., Racine, Wis. His brother, F. E. Moscovics, is vice-president of the Nordyke & Marmon Co.

H. W. Tuttle, Buick branch manager in Los Angeles, attended, having gone North with Charles S. Howard, president of the Howard Automobile Co., who had gone to see the Los Angeles race which rain prevented.

Saturday afternoon a talk to farmers and truck and tractor owners was made by A. H. Kroh, the Goodyear company's expert on farm motive power.

As in the Eastern shows, the motor tear-down demonstration in charge of Bert Dingley, as part of the Al. G. Faulkner exhibit, attracted swarms. Vice President F. E. Moscovics put in considerable time there. The demonstration accompanies Dingley's lecture, in which he tells how, in assembling the motor, no part needs hand fitting, not even the shimless main bearings of the massive crankshaft, on which variation exceeding one-half of 1000th of an inch is not permitted. The bearings are laid in the crankshaft, the crankshaft placed in the bearings, the other half of the bearings and caps added, and bolts and nuts drawn tight. The finish of the enclosed parts is remarkable.

M. A. Leach, president of the Leach-Biltwell Motor Co., Los Angeles, and W. H. Brashear, wholesale sales manager, announced Max Arnold, of San Francisco, as Northern California distributor of the Leach Power-Plus Six. Mr. Arnold is a newcomer on the Row, but one of the best known automobile experts in the state. He has opened a steel-and-concrete building and makes a specialty of super-rebuilding automobiles.

George F. Bayerline, president of the Columbia Motor Co., drove a Columbia Six from Los Angeles to the show.

The Buick museum was an object lesson on the mechanical history of the industry.

Wednesday night, in Rainbow Lane of the Fairmont Hotel, President Charles W. Nash of Nash Motors Co. was honor guest at a banquet given by the Pacific Nash Motor Co. Harold Hart, vice-president of this company, presided. President Stuart S. Hawley spoke. So did Mr. Nash; George P. Miller, president of the Nash Sales Co., Chicago, largest Nash distributor in the country; John J. Troy, president of the Troy Motor Sales Co., Los Angeles, distributors for Southern California and Arizona; and others.

Velie model 34, the smaller one of that line, exhibited by the Cadwalader-Chase Co., was shown for the first time in the West. Another feature was the sport model, with chassis somewhat longer than the regular. The whole display was "stolen" from the Chicago show and expressed to the Coast.

Dealers and branch managers of the Frank O. Renstrom Co., Briscoe and Grant distributor, broke bread together at the Fairmont, Wednesday.

Dealers in Chalmers, as well as factory representatives and the entire sales force of the Lou H. Rose Co., distributor, discussed viands and automobile commerce at a plentifully attended dinner at the St. Francis. General Sales Manager Tom J. Toner and L. A. Van Patten, advertising counsel, of the Maxwell-Chalmers Co., were present.

The Indiana Truck Corp. was represented by R. M. Beck, Western sales manager, en route from Seattle to Texas. The company's new daylight factory building, 60x400, has not a pillar or post in it. The plant now covers 16 acres.

C. H. Haynes, of the Haynes Auto Sales Co., San Francisco distributors, received the Haynes exhibit by express from the Chicago show in the nick of time for the opening.

Wednesday at noon everybody and his friend went to the Advertising Club dinner at the Palace, where four old-time "boats" gave an ancestral flavor to the speeches. Among the talkers listed were: C. W. Arthur, Mitchell Co.; S. F. Skelly, president Premier Motor Co.; A. H. Kroh, Goodyear Co.; Barney Oldfield; Bert Lytell, movie actor; G. Kissel, president Kissel Motor Co.; F. E. Moscovics, vice-president Nordyke-Marmon Co.; Charles F. Stern, state banking commissioner; Earl Cooper; T. J. Toner, Maxwell-Chalmers Co.; L. A. Van Patten, advertising counsel; George A. Bayerline, president Columbia Motor Co.; C. F. U. (King) Kelly, former president Kelly-Springfield Tire Co.

One of the notable dealer-dinners was that of the Greer-Robbins Co., largest Hupmobile distributor in the world and newly appointed distributor for the Lafayette in the San Francisco district. "Live Wire" E. W. Milburn, San Francisco manager, arranged the dinner.

One close observer of tractors especially was C. A. Olson, chief of the service engineering department of the Minneapolis Steel & Machinery Co., manufacturers of Twin City tractors and other farm machinery. He made his headquarters with the Frank O. Renstrom Co.

The Dixie Flyer, made by the Kentucky Wagon Mfg. Co., Louisville, Ky., 40-year-old concern, was announced. The Golden State Motors Co., San Francisco, is California and Nevada distributor.

A notable exhibit was "Old 999," which, driven by Oldfield, first brought Ford into prominence.

Many visited the GMC truck headquarters at 915 Van Ness Ave., a new building into which the General Motors Co. moved a few days before the show. It was unable to get show space.

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Portland Holds Two Shows

Passenger Car and Motor Truck Exhibits Form Most Complete Exhibit Ever Held in Pacific Northwest.

PORTLAND, ORE., (Special Telegram)—During the week of February 23-28 Portland held the largest, most complete and in every way the most successful motor car show ever conducted in the Pacific Northwest. The show was really a twin event, for it consisted of a passenger car exhibition in the Ice Palace and a separate truck show in the Portland Armory. Both were under the management of M. O. Wilkins.

The passenger car show in the Ice Palace was notable for the number of cars displayed, the number of new models and the interest taken by the public. Attendance for the week totaled close to 30,000.

Some idea of the size of the show as compared to previous events may be gained from the fact that it was necessary to hold a separate truck show this year because of the large number of passenger car entries. A year ago there was room in the Ice Palace for both passenger cars and motor trucks. This year the big building, which is 360 feet long by 130 feet wide, with a floor space after making deductions for aisles and exits of 36,000 square feet, was taxed to accommodate all the passenger cars.

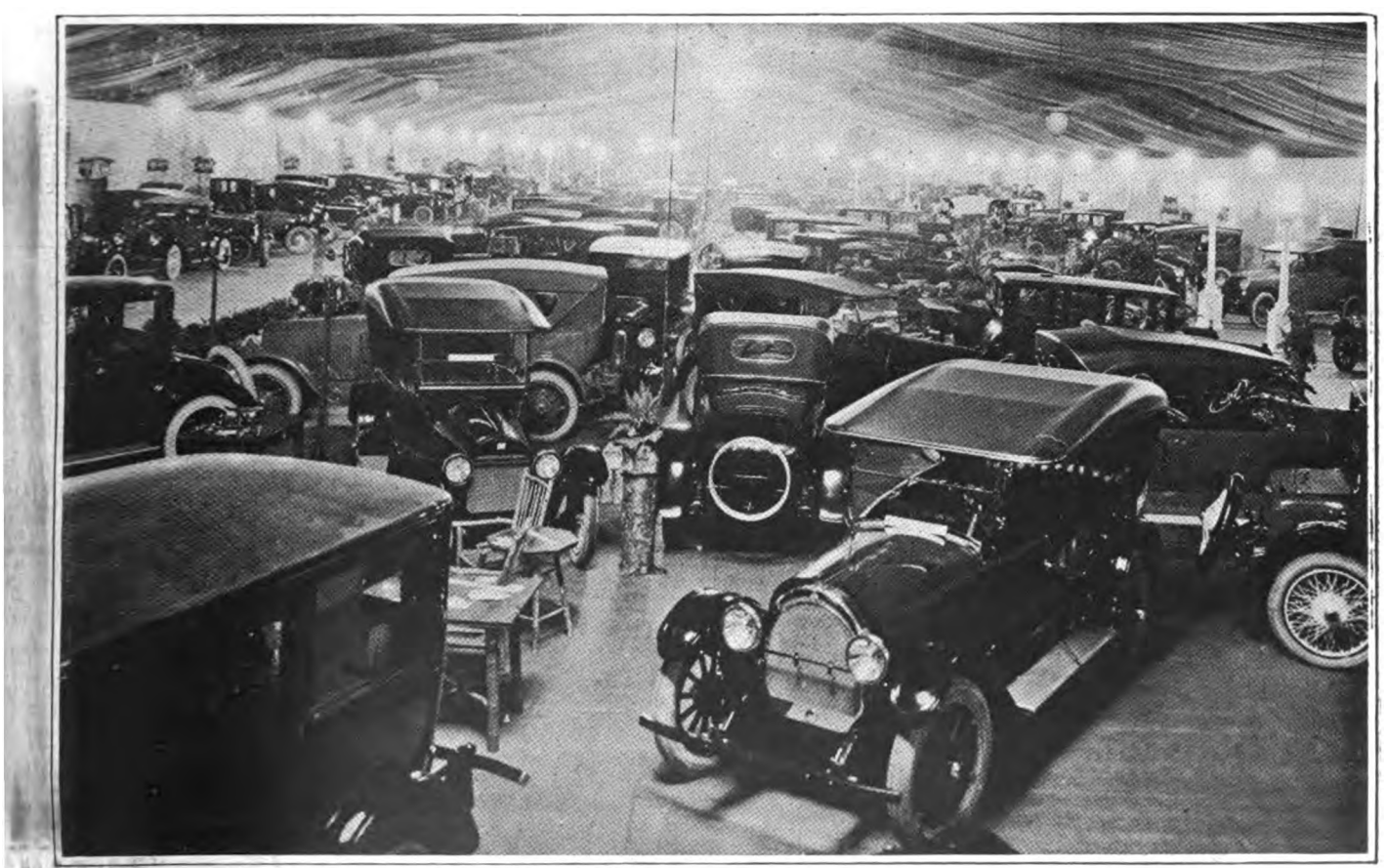
Due to lack of space, there were no accessory exhibits at the Ice Palace, nor in connection with the truck show. This was such a disappointment to the accessory dealers that only a few days before the shows opened arrangements were made to give them space in the ball room of the Armory above drill hall where the trucks were shown. The natural result, of course, was that there was not a very wide range of accessories on exhibition.

A total of 68 different makes of cars and 170 models were represented at the Ice Palace. One thing that made the show especially interesting to the general public was the large number of cars new to the territory that made their bow for the first time at the show. Among these were the new Willys-Knight; the Shaw and Re Vere, each equipped with Duesenberg racing type motor; the new Briscoe Four; the 1920 Liberty six with its own Liberty motor; the Lorraine (formerly the Hackett), the Monroe and the Standard Eight.

Other new models included the Davis six, brought to Portland only a few weeks prior to the show by the J. H. Graham Motors Company; the new Mitchell with tilted radiator, by the Mitchell, Lewis & Staver Co.; the Maibohm six, displayed by the A. M. Beaver Motor Company; the Stearns-Knight and the National Sextet, both represented by the Manley Auto Co.; the Commonwealth four, by the Denis Motor Co., and the new post-war Marmon, shown by the Northwest Auto Co.

The show was the crowning event of the most remarkable year enjoyed by Oregon motor car dealers, and the opening of a spring and summer selling campaign that bids fair to eclipse that of last year. Oregon dealers as a whole are tremendously oversold in orders even at this early date. Ordinarily, the selling season in Oregon does not fairly open until along about April and May, but weather conditions in the north have been most unusual, so much so that there fair weather in all but one week of January, and during almost every day of February. This has had the same effect on the motoring public that it has had

(Continued on Page 48.)



PORTLAND'S PASSENGER CAR SHOW IN THE IMMENSE ICE PALACE CROWDED THE HUGE BUILDING TO ITS DOORS

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New L. A. Speedway Given a Brilliant Opening

Jimmy Murphy Wins 250-Mile Race Without a Single Stop in 2:25:17.59, Driving a Duesenberg at 103.2 Miles Per Hour--Boyer, Frontenac, is Second and Ira Vail, Philbrin, Third—Attendance About 50,000—Nobody Hurt

THE 1¼ mile board track of the Los Angeles Speedway Association at Beverly Hills was opened February 28, rain having caused its postponement from February 21. The meet was a brilliant success as a sporting event and as a stimulant to business. The attendance was about 50,000.

The plant was up-to-date—as different from anything of the kind seen in the past, West of Chicago, as are the best baseball grounds compared with those of early days. The machines, with few exceptions, ran smoothly though with vastly more speed than of yore. There was no lack of thrills, but the aspect of gruesome danger was not there except once, when the rear left wire-spoked wheel of Klein's Peugeot Special, after a long grind at what many had remarked was undue speed, gave way on the first curve. Neither Klein nor his mechanic were thrown and after some weird contortions the machine went down out of the way.

Jimmy Murphy, of Los Angeles, driving a Duesenberg Special, won the 250-mile race without a stop in 2:25:17:59, averaging 103.2 miles per hour. The record, 2:23:04.03, was by Aitken, Peugeot, at Sheepshead Bay (two-mile of the way.

Joe Boyer, Jr., Frontenac Special, won second in 2:26:33.15. Ira Vail, Philbrin Special, took third in 2:27:10.15. A premature announcement, caused by an entirely human slip by an official, had Vail second, Boyer third. This was corrected in checking up.

The $25,000 purse was divided as follows: First, $10,000; second, $6,000; third, $3,000; fourth, $2,000; fifth, $1,000; sixth $800; seventh, $700; eighth, $600; ninth, $500; tenth, $400.

The start was relatively slow, the first five miles being run at about 97 miles per hour. Later, Milton (Duesenberg) and Klein (Peugeot) helped considerably in raising enthusiasm by means of brushes, as well as speculation as to how long they could keep it up without troubles. The average for the first half of the race, with Murphy then leading, was 104.4 miles per hour. The track is believed to be good for 125 miles per hour. In the race the men were more wary than if the course were wider.

There were 18 starters and nine finishers.

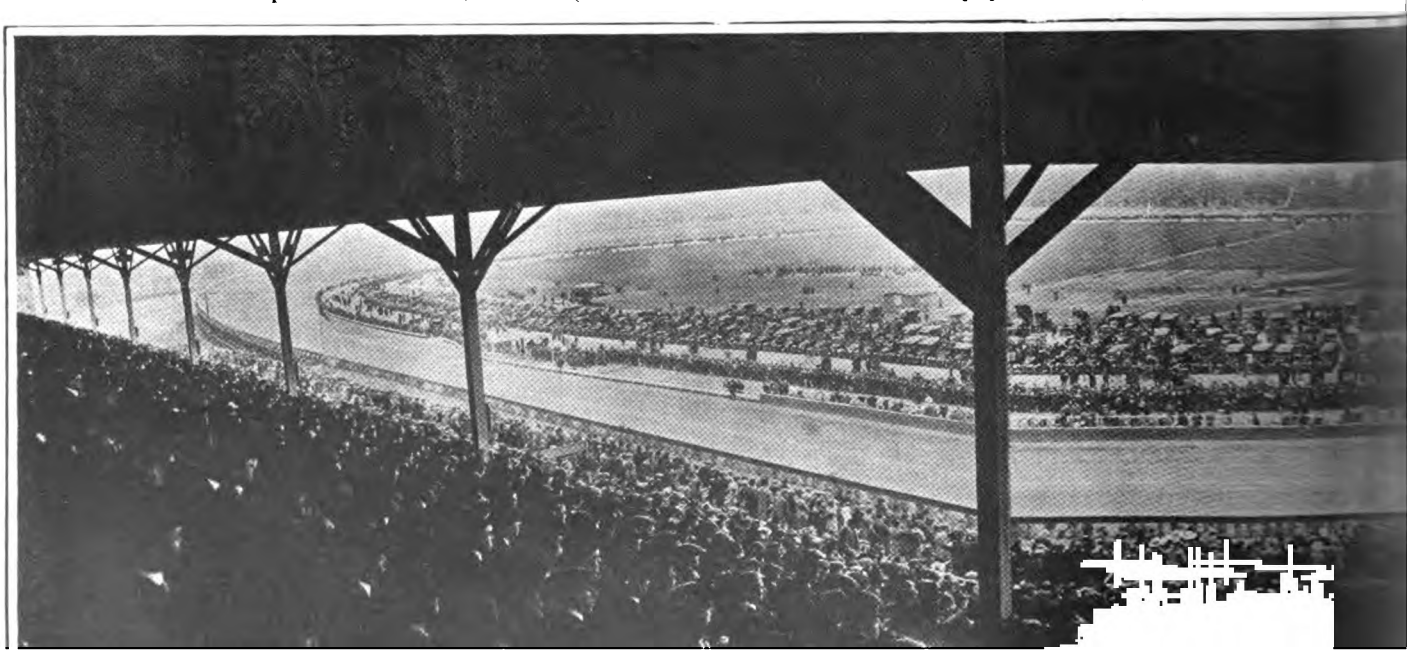
Starters, in Starting Order.

No.	Driver.	Mechanic.	Machine.
10	Jimmy Murphy	Jahls	Duesenberg Special
12	Ralph Mulford	Miller	Meteor Special
9	Tommy Milton	Crummey	Duesenberg Special
3	Joe Thomas	Soules	Frontenac Special
5	Roscoe Sarles	Fresnahan	Frontenac Special
7	Joe Boyer	Ansterberg	Fontenac Special
18	Ralph De Palma	De Paolo	Ballot Special
6	Ken Goodson	Etges	Frontenac Special
8	Reeves Dutton	Crosby	Stutz Special
29	Art Klein	Wilson	Peugeot Special
27	Eddie Pullen	Boyd	Richards Special
1	E. C. Durant	Comer	Chevrolet Special
2	Eddie Hearne	Hartz	Chevrolet Special
25	Bennett Hill	Pence	White Special
14	Ira Vail	Olsen	Philbrin Special
17	J. De Palma	Klein	Mercedes Special
15	Eddie O'Donell	Hefferman	Hudson Special
28	Waldo Stein	Nicholas	Oldfield Special

Finishers and Their Times.

Position.	Driver.	Mechanic.	Machine.	Time.
1	Jimmy Murphy	Jahls	Duesenberg	2:25:17.59
2	Joe Thomas	Soules	Frontenac	2:26:33.15
3.	Ira Vail	Olsen	Philbrin	2:27:10.15
4	Ken Goodson	Etges	Frontenac	2:29:01.59
5.	Eddie O'Donell	Hefferman	Hudson	2:30:04.20
6	Eddie Hearne	Hartz	Chevrolet	2:33:22.47
7	Ralph Mulford	Miller	Meteor	2:46:18.85
8	Ralph De Palma	De Paolo	Ballot	2:46:26.47
9	J. De Palma	Klein	Mercedes	2:50:32.07

Milton, Duesenberg, led to 12 miles; Boyer, Frontenac, 13 to 20 miles; Milton, Duesenberg, 21 to 49 miles; Klein, Peugeot, 50 to 68 miles; Pullen, Richards, 69 to 96 miles; Murphy, Duesenberg, 97 to 115 miles; Boyer, Frontenac, 116 to 167 miles; Murphy, Duesenberg, 168 to 200 miles.



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All drivers who went out before the finish had mechanical troubles. None were flagged out.

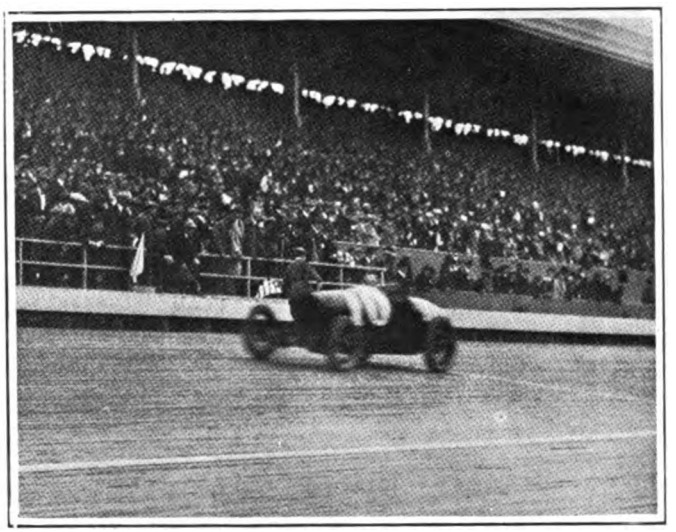
Position of Cars During Race.

Position.	25th Lap	50th Lap	75th Lap	100th Lap	125th Lap	150th Lap	175th Lap	200th Lap
1	9	29	27	10	7	7	10	10
2	7	9	10	27	10	10	3	3
3	29	27	12	12	27	8	14	14
4	5	10	14	7	8	27	15	6
5	1	12	7	8	14	3	6	15
6	10	5	6	14	3	14	2	2
7	6	14	3	3	15	6	12	12
8	12	6	8	15	6	15	18	18
9	27	3	15	6	5	2	17	17
10	14	7	2	5	2	12		
11	3	8	5	2	29	18		
12	8	15	18	29	12	17		
13	2	18	29	18	18			
14	28	2	17	17	17			
15	18	17						
16	15	1						
17	17	25						
18	25							

All starters passed the 25th lap. No. 28—Stein, Oldfield, did not reach the 50th lap. No. 9—Milton, Duesenberg; No. 1—Durant, Chevrolet; No. 28—Stein, Oldfield, and No. 25—Hill, White Special, did not reach the 75th lap. No. 29—Klein, Peugeot, and No. 5—O'Donell, Hudson, did not reach the 150th lap; No. 7—Boyer, Frontenac, and No. 27—Pullen, Richards, did not reach the 175th lap.

The 18 starters qualified by running laps as follows: Murphy, Duesenberg, 39.14 (115 miles per hour); Mulford, Meteor, 39.23 (114.7 miles per hour); Milton, Duesenberg, 39.62 (113.5 per hour); Thomas, Frontenac, 40.03 (112.2 per hour); Sarles, Frontenac, 40.30 (111.79 per hour); Boyer, 40.36 (111.8 per hour); Ralph De Palma, Ballot, 40.44 (111.1 per hour); Goodson, Frontenac, 40.69 (110.7 per hour); Dutton, Stutz, 40.74 (110.3 per hour); Klein, Peugeot, 40.88 (109.9 per hour); Pullen, Richards, 41.09 (109.4 per hour); Durant, Chevrolet, 42.44 (106.1 per hour); Hearne, Chevrolet, 42.61 (105.63 per hour); Vail, Philbrin, 42.89 (105.35 per hour); Hill, White, 42.71 (105.2 per hour); J. De Palma, Mercedes, 43.79 (102.8 per hour); O'Donell, Hudson, 44.1 (101.81 per hour); Stein, Oldfield, 44.8 (100.25 per hour).

There were 42 pit stops altogether, as follows: Murphy, Duesenberg, none; Milton, Duesenberg, 1; Thomas, Frontenac, 1; Hearne, Chevrolet, 1; Stein, Oldfield, 1; Klein, Peugeot, 1; Vail, Philbrin, 1; Durant, Chevrolet 2; Goodson, Frontenac, 2; Boyer, Frontenac, 2; O'Donell, Hudson, 2; Sarles, Frontenac, 3; Dutton, Stutz, 3; Hill, White, 3; Pullen, Richards, 3; Mulford, Meteor, 3; John De Palma, Mercedes, 5; Ralph De Palma, Ballot, 8.

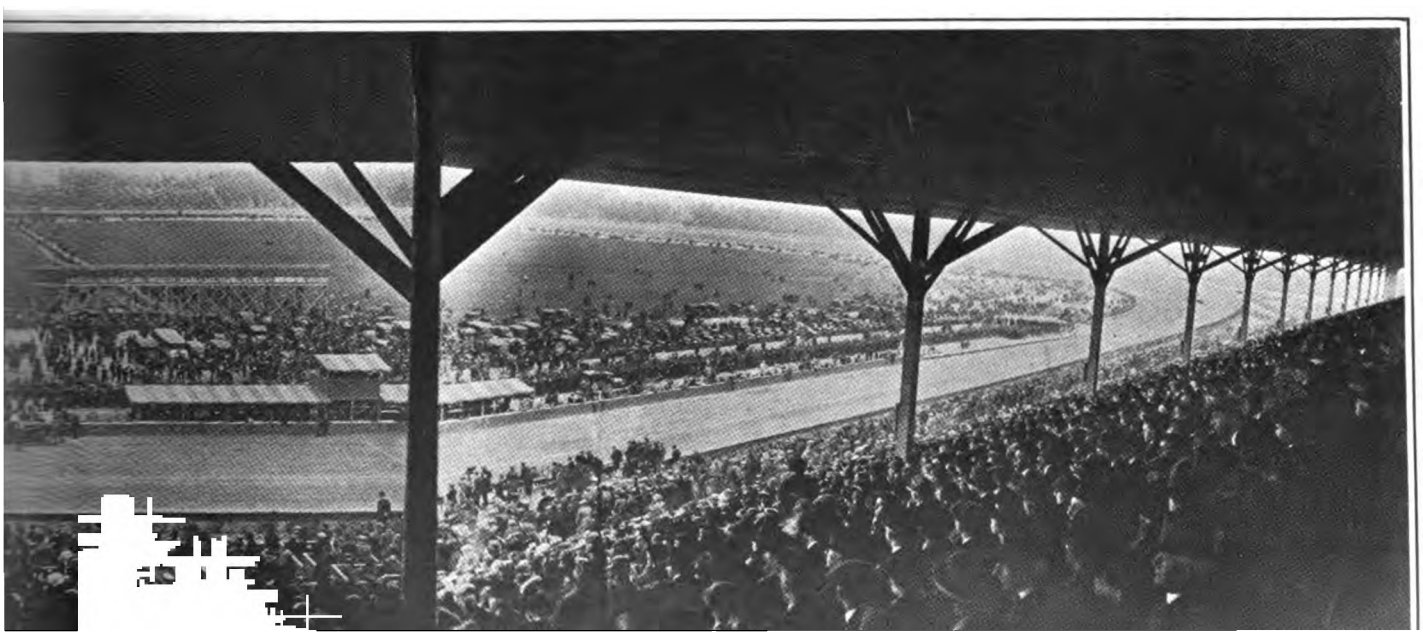


THE WINNER, JIMMY MURPHY, AND HIS DUESENBERG.

Of the eighteen cars that started, fourteen were equipped with Goodyear Cords, two with Braenders and two with Oldfields. The winner was Goodyear-equipped, while Braenders were on Joe Thomas' mount, which finished second.

The officials: Referee—Charles P. Root; starter—Frank Lowry; timers and scorers—T. E. Myers, Chester Ricker, Odis Porter, Charles Warner, William R. Ruess, Robert McGranger; pit managers—Fred Ruthledge, Joe Nikrent; judges—H. S. Firestone, Douglas Fairbanks, A. F. Osterloh, F. E. Moscovics, Don Lee, Dustin Farnum, C. W. Nash, Maynard McFie, Maj. H. D. Ryus, Harry C. Coger, Alexander Winton, Elmer Apperson, Charles Y. Knight, Charles S. Howard, Frank C. Garbutt, O. R. Fuller, Earle C. Anthony, Walter Baldwin, Thomas H. Ince, Harold L. Arnold, L. V. Starr, Harris Hanshue, R. J. Schmunck, William Wrigley, Jr., William M. Garland; announcer, Dan Canary.

The electrical timing method was the same as used at Indianapolis. T. E. Myers, general manager of the Indianapolis Speedway; Chester S. Ricker, formerly of California, now A.A.A. representative for Indiana; and Odis



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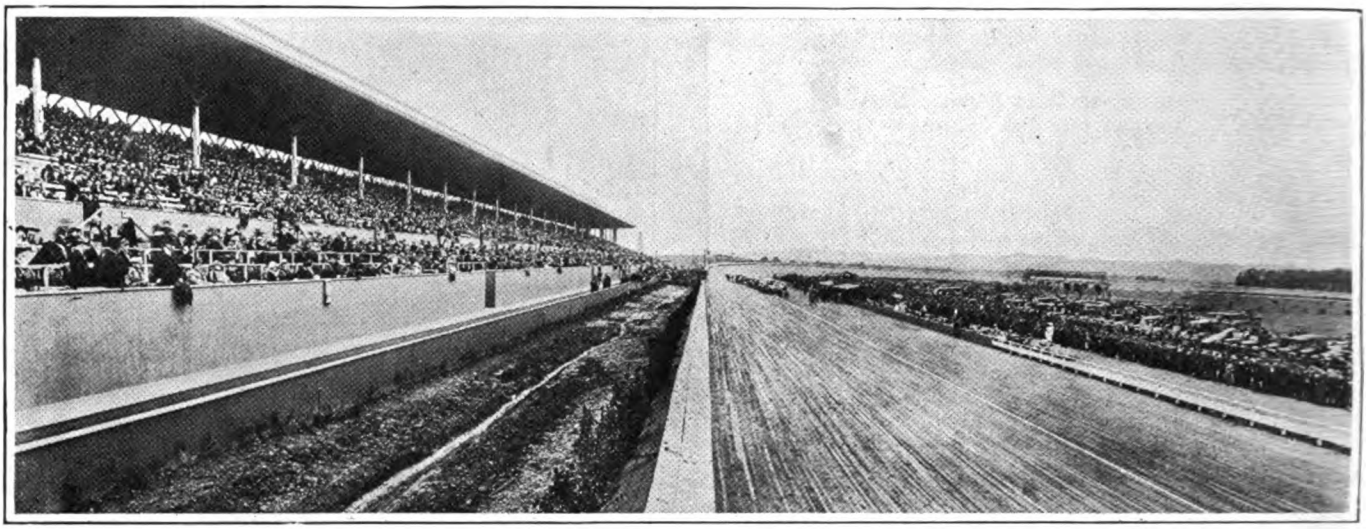

LOOKING UP THE HOME STRETCH TOWARD THE LINE OF STARTERS. PITS, JUDGES' STANDS, ETC., AT RIGHT.

Porter, his principal assistant, together with a crew of timers and scorers, were brought to the Coast especially for the great race. The outfit consists of a time registering device run by a motor and storage battery, and a chronometer. A wire, crossing the track, is fastened at one end to an electric break-maker. Cars passing over the wire cause a break in the current, and the time of passing is recorded on a strip of paper by a striking arm. The paper is automatically shifted for the next impression, even if it comes within 5-100ths of a second after the first. As the time of each car is recorded, an assistant calls its number, which the official timer notes opposite the time on the strip. The scorers also tabulate the number as called, using small counting machines. These scorers are able to tell, at any time, how many laps each car has traveled.

Notes of the Race.

The man who built the track, Jack Prince, also built the one-mile circular board Playa del Ray motordrome, which was located, practically south of Beverly Hills, in a marsh through which the Los Angeles River once flowed to the sea. That track permitted a speed of 100 miles an hour, but only for a mile or two. It was not banked sufficiently for the fastest cars of its period. By means of fire and dismemberment, it has entirely disappeared.

On the 1⅛-mile track at Uniontown, Pa., a board oval similar to the new Los Angeles track, 96 miles per hour has been maintained for 150 miles. The Los Angeles stretches are shorter and the curves longer. By reducing strain in entering the curve, this increases speed.

The Duesenbergs with eight cylinders of the line-ahead type, which were raced for the first time at Indianapolis on May 30, and De Palma's eight-cylindered Ballot of similar construction, were the only machines with motors of relatively new and different design. Their advantage is in quick acceleration on leaving turns. This is important at Indianapolis, where there are four turns; but not so important at Los Angeles, because the four-cylindered cars take the turns wide open.

Starting an automobile race of importance is a job for an expert. Starter Frank Lowry has been associated with automobile racing since 1908. He has officiated at many events of national fame, and many of less importance, in this country, Canada and Cuba. Every flag the starter waves has a meaning of its own, thus: Red—course is clear; yellow—stop, course is blocked; green—you are entering last lap; white—stop at pits for consultation; black-and-white checkered—you are finished; black with white center—competitor trying to overtake you. Multiply the number of flags by the number of competitors, and add a million little complications, and maybe you can visualize the job.

The vast grandstand faces north, with the range of mountains in full view over the top tier of bleachers on the opposite side of the track. The pits are ranged along the infield side of the home stretch, on both sides of the stand for judges and timers. The five-acre parking infield is reached by three tunnels. Four other tunnels are for pedestrians only.

The board track practically does not vibrate. The open country absorbs most of its rumble and the roar of the motors. When a machine practicing at say 100 miles per hour rounds the turn and fiercely streaks its way up the stretch the composite sound—wild, imperative—still is musical, reaching a high note as the streak passes.

The boards are set on edge, lengthwise with the track. Falling on them means absorbing "considerable splinters," as Lem Loosehead might say; but leaving them unplaned is a good anti-skid idea.

The Indianapolis contingent declared the white and green coloring of their race plant far more trying to the eyes than the Los Angeles orange and blue.

The speedway plant cost well over $500,000, not including the land. In the week during which the race was postponed on account of rain, probably $30,000 was expended to make the ground firm. At that time, the forest of automobiles and thousands of pedestrians churned it up some.

Ralph De Palma went to the pits eight times for tire changes. Once he had all four tires changed. All others combined made only 17 tire changes. As others besides De Palma used the same make of tires, it was thought wrong alignment in his machine may have been the cause.

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Joseph Boyer, Jr., and Roscoe Sarles plan to race in the sky as well as on land, and stated their intention to take lessons at the Mercury field near Los Angeles. Boyer was motor inspector in the flying service during the war, at the Packard plant.

There was some impromptu racing, during the practice days, between the four-wheelers and a plane or two from a neighboring aviation field.

When it was learned Louis and Gaston Chevrolet were ill in the East, Frank Lowry, in the name of the drivers and the speedway association, wired, expressing sympathy.

The new track is good to tires. The long curves have much to do with this.

The race track is the ground school of motor development, says F. E. Moscovics, vice-president of the Nordyke & Marmon Co., former automobile journal editor, and mechanical and mathematical expert.

Pullen's machine had a V-shaped block of wood on each axle the idea being similar to that used on airplanes, to reduce air pressure. All the Frontenacs, Duesenbergs, Peugeots and Mercedes—in fact, practically all of the racers, had streamline construction beneath, as well as for tops and sides.

A. G. Batchelder, chairman of the A.A.A. executive board, intended to be present, but was prevented from leaving Washington by the death of Mrs. Batchelder's mother in Florida.

A phase of the remarkable hegira of trade men from the East and Middle West was the number of them who told this and that friend, in strict confidence, not for publication, etc., of intention to come to the Coast to live, just as soon as, etc., etc. Hope may be deferred in some cases—but they all mean it.

Chester Ricker, who assisted in the timing, said that if the pits were farther down the homestretch and the checkers and starting line near the head of the stretch, accuracy would be facilitated. He also made suggestions as to the elevation of the official and press stands, to the same end.

Air pressure is said to form about 70 per cent of the total resistance the drivers have to combat. In other words, about 85 per cent of the approximate 120 horsepower developed is used against air pressure.

San Francisco newspapers gave the event large preliminary spreads. Interest was very widespread. It was the greatest sporting event of years for the entire Pacific Coast region.

John White's Delage Special developed troubles before the day of the race, so White concentrated his efforts on the White Special, with Bennett Hill as pilot.

The width of the track, 50 feet, was just enough for four cars abreast. This made the brushes most exciting.

Manager A. M. Young has reason to be proud of the new track. It fulfilled all expectations.

A FEW OF THE CARS NEAR MAIN GRANDSTAND.

It was Ernie Ansterberg's last appearance as a mechanician. He soon will be driving a special, being built for him by Louis Chevrolet.

Joseph Boyer, Jr., Detroit's millionaire driver, uses as a mascot an ivory Japanese lantern with small poker dice within. R. Clifford Durant has a kewpie attached to the dash. Kenneth Goodson is always with a miniature white elephant. Roscoe Sarles has a dog. Eddie Pullen totes around a tiny baby shoe. Eddie Hearne adopted Barney Oldfield's idea of carrying a written prayer between his hand and the steering wheel.

Men who had not met for years, including some who had been cycling lights before the automobile came in and who had scattered to the four winds, came together on race day or during the preceding time trials.

Seats in the covered grandstand were $4 and $5; in the open stand, opposite, not reserved, $3. These prices included free parking in the grounds; infield parking, $5 extra. General admission was $2. Prices included war tax.

Alexander Winton, maker of the Winton, was there. In 1898 he made what is declared to be the first bona fide sale of an automobile. He built the Winton Bullet, made famous by Oldfield, and which Winton himself drove a mile in 1:01 4/5.

Elmer Apperson, pioneer automobile manufacturer, is wintering in Los Angeles. Edgar Apperson divides his winters between his Arizona ranch and the factory in Kokomo, Ind.

It is intended to have another race in March or April. A number of drivers will stay on the Coast for it.

COAST AUTOMOTIVE EQUIPMENT EXPOSITION.

Tons of machinery, tools and other automotive equipment are being shipped to San Francisco by Eastern manufacturers for exhibition at the First Annual Pacific Coast Automotive Equipment Exposition, to be held at the Auditorium, March 30-31 and April 1-4. Thousands of accessory dealers, machine shop owners, garage owners and jobbers from all over the West will attend, and manufacturers who have not reserved space are urged to do so by wire, addressing communication to the Exposition offices, 815-16-17 Gillette Building, San Francisco.

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THE MOTORING AUTHORITY OF THE PACIFIC COAST

Established 1907

AN ILLUSTRATED AUTOMOBILE MAGAZINE OF QUALITY, ISSUED SEMI-MONTHLY.

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MARCH 1, 1920

Better Get Behind N. A. D. A. in This

F. W. A. VESPER, retiring president of the National Automobile Dealers' Association, said something worth while at the association's annual meeting in Chicago when he urged every automobile trade man to help the organization's effort to improve the quality of mechanical instruction in trade schools. Too many so-called schools, he said, give only preliminary and elementary instruction and are out principally for quick and easy income. The association, he said, should somehow acquire some sort of supervision over this instruction. Other speakers said some Y. M. C. A. schools are turning out good men. Various ideas for plans for bettering the situation were discussed.

Whatever the best plan may be, a good general plan is for every man in the trade to bear in mind the need of improvement. Doing this will result in suggestions, all of which will automatically converge to the best.

Bear in mind, also, that not only passenger car business, but business in motor trucks and tractors, needs the help of the best developed mechanics possible.

Honing for the Land of Opportunity

THE days of long ago came back recently when a flock of automobile men who used to be bicycle men festooned the furniture of "Motor West" offices—men from the Middle West and East who came to the Coast after the national shows. We look to the not-far-off tomorrow when a goodly proportion of these men will come to the Coast to stay. It's in their systems. It is their prevailing topic. They used to talk of the time when they would be sitting on the porch on the little chicken farm. No more of that. It is not the lazy life they now have in mind—it is a new life in this new land of opportunity.

One of the most obvious signs of interest is their discovery that the great Pacific region is not given adequate consideration with respect to filling its orders for automobiles, motor trucks, tractors and all the things that go with those instruments by which the possibilities of the region can be realized. This enlightened attitude is none the less pleasing for being, as plainly as can be, an indication of prospective self-interest, of intention to come where opportunity does not consist merely of dollar-making, but of real living as well.

Please Don't Do This, Henry Ford

WE are hearing things about Henry Ford's new street car, with two motors, one 75, the other 150 horsepower, to be operated without tracks but which, on a track, is said to be ready to run the Wolverine Express to a standstill. We confidently expect trackless street cars to displace the tracky variety, and wish Mr. Ford all due prosperity with his.

A bone we wish to pick with him, however. When told the world's oil supply would peter out in 30 years, and gasoline driven vehicles thus made impossible, he up and said that didn't matter; that he was getting alcohol fuel for his tractors out of straw on his farm; and that he believed the time is coming when alcohol will be extracted from fruit before the fruit is eaten.

Goodness knows, Henry, that some of us will go to great lengths to get caloric impulses out of spirits; but if you wish to maintain your high reputation as a benefactor of the human race, don't help emasculate it further by taking anything from fruit, or from any other food for the purpose of supplying thermal units to anybody's internal mechanism, automotive or otherwise. Study dietetic chemistry, we beseech you. Cooking takes from grub the mineral elements for lack of which many millions suffer. The alcohol or anything else that's in fruit was put there by an all-wise Providence, for reasons which no automobile or tractor manufacturer should question or undermine.

Get alcohol from straw, and be blessed; but grant us yet the infinitesimal part of a 1-per cent stew which, in these dry days, we may be able to extract from a nonde-alcoholozed pippin.

Contradictory Stories of Mexico

A NOTICEABLE fact is that newspaper publishers and "statesmen" prominently urging action in Mexico, and even conducting official investigation with "intervention" quite possibly in view, have large interests in our neighbor country. The murders and outrages upon our citizens are carefully counted and headlined. Articles refer to the "implacable hatred" of Mexicans against us.

This is not to say that nothing should be done; but it would be well to count the things we do to Mexicans on our soil, physically and in business, some of it illicit business on the border; and it is a fact that cannot be controverted that the Mexican's hatred is not "implacable."

The average Mexican is as a child; uneducated; practically without news except grapevine telegraph rumors. He is easily influenced by the lying cartoons in his own country. However, Americans who mix well are liked down there. Trainloads of American business men have been astonished, on personal investigation, to find the country actually on the upward trend. It is becoming evident that of two ways to better Mexico, and to better

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our interests) the friendly way, with patience, is worthy of consideration.

The subject should be given attention in the automobile industry. The "flivver" is the most popular vehicle of transportation in Mexico and the tractor and motor truck can do wonders for Mexico and for us. The way which will most quickly win Mexican co-operation is the way we should adopt. Shall it be force, or peaceful infiltration?

Fewer Amateur Road Reports Needed

ROADS are good or bad according to who rides them. This has been proven again and again in the cases of motor tourists on the Coast. Well-meant but incorrect and misleading reports on road conditions are being constantly issued by amateurs and persons utterly unfit to judge. Wide experience and familiarity with all types of roads and road reporting are necessary to determine whether or not a road is fit for travel.

Some stunt-staging automobile dealers are the worst offenders. They make free reports on road conditions. Probably the roads were good for spectacular driving and showing off the car's economy, durability, etc., but numerous motorists are misled by them and later voice their feelings to reputable automobile associations.

Boston's Advantage as to Congestion

BOSTON, the cowpathiest town of them all, is greatly advantaged thereby as to traffic congestion. The pedestrian friend in Boston may step into a building while you walk "straight" on. Presently, you really having walked in a circle instead of straight, he may step out of another building and meet you, you having gone the long way around, while he cut through. It may be said to be the same way with motor and other travel.

If cows were responsible for Boston's street map, they showed great foresight and did the city a great favor. There are tight corners and some very narrow streets there, but he who knows the maze can get hither and yon in an approximately straight line, instead of by a time-losing series of rectangularities, as in cities where the blocks are square.

Routing of traffic to avoid congestion, with consequent howls from merchants from whose streets it may divert business, is not necessary. The short cuts are there. The people take them. The problem takes care of itself.

Housing Makes the Bond Closer

GEORGE M. PULLMAN was the pioneer American in providing sanitary homes for his workers. The town of Pullman, Ill., was built literally from the sewers up—as a complete city, a unit instead of an architectural hodge-podge. It housed 5000 persons better, more economically, than they could have been housed otherwise. By rare vision Pullman had—at an apparent but not, eventually, a real loss of $500,000—secured the rolling stock contract for the West Shore railroad; work enough to keep his city employed for years. He wanted his workers to be healthy—i.e., efficient—and near their work. He gave them all the necessary comforts. Compared with any city of any size, of its day, his city was perfect.

Only perfect physically, however. His men thought they lacked political liberty. They were galled by the company rules which governed the town. There was a big strike. Blood was shed. President Grover Cleveland sent troops to Chicago, of which Pullman was a suburb.

How differently the housing problem is being solved in the automotive industries; with how much more success because the workers are regarded as co-operators, brothers; are in many instances helped to home ownership in company subdivisions which are nearly ideal in their physical and social aspects.

On the Gentle Habit of Smoking

THE convivial cup has been put on the shelf to gather dust—at least so far as laws can do it—and in this matter legislative initiative appears to have turned public habit in that direction to a considerable degree.

The social cigarette, and other forms of smoking, performed by the indispensable human orifice which functions as both intake and exhaust, except when the nose is used for the latter purpose, are also to receive the attention of organized reformers, we are told.

Well, whatever is the rule is the rule. We would like to see included, in the category of strictly forbidden pleasures, the more or less gentle habit of smoking up the highway. Sometimes it is done through lack of experience, or thoughtlessness brought on by some great care that may be burdening the mind of the driver, or by sheer enthusiasm, or by non-consideration for the cost or the comfort of others. Whatever the cause, there is no rule forbidding it that works. Even if the rule were worked overtime and strenuously, we would not object. It would clear the atmosphere of misconceptions, coughs and sore eyes, save a lot of oil and carbonizing and be generally conducive to the gaiety of nations and the public weal.

Indication of Multiple-Wheel Trucks

A LETTER from Goodyear, in connection with an article in this issue on ultimate tire development, makes it clear there is no desire to dictate motor truck design. The facts, ascertained incidentally, as to the use of six instead of four wheels, speaks for themselves, and undoubtedly manufacturers will welcome the knowledge, which indicates a repetition of railway locomotive and car wheel evolution.

Calendar of Coming Events

March 2-6—Denver, Colo., Car and Truck Show.

March 6-13—Santa Rosa, Cal., Annual Automobile Show, Auspices Sonoma Automobile Trade Assn.; L. L. Putnam, Mgr.

March 11-13—Pendleton, Ore., Annual Automobile Show, Pendleton Automobile Assn.; Happy Canyon Pavilion.

March 15-20—Great Falls, Mont., Fifth Annual Car Show, Auspices Montana Automobile Distributors' Assn.; A. J. Brandenstein, Mgr.

March 15-21—Seattle, Wash., Automobile Show, Pioneer Auto Garage; William J. Coyle, Mgr.

March 27-April 3—Los Angeles Motor Truck Show, R. M. O'Neal, Manager.

March 30-April 4—First Annual Pacific Coast Automotive Equipment Exposition, Auditorium, San Francisco, Cal.

April 21-28—First Pacific Coast Aeronautical Show, Auditorium, San Francisco, Cal.; Auspices Pacific Aero Club.

May 7-8—Fourth Annual Los Angeles-to-Camp Curry Economy Run.

June 1-5—Del Monte, Cal., Annual Meeting Automotive Equipment Assn.

July 5—Tacoma, Wash., Speedway Race.

September—Glidden Tour, New York to San Francisco.

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Congressmen Urged to Act

Federal Plan's Proponents Active, as Are Those Behind Extension of Present Federal Road Aid Law

EVERY member of Congress recently was sent a letter by the Federal Highway Council, accompanied by an article from the Manufacturers Record, and requesting a response. Both letter and article strongly made the point that failure to act favorably toward a system of national highways would be false economy. The Townsend plan, which is proposed, calls for $50,000,000 the first year, then $100,000,000 annually for three years.

Congress is also being urged—East as well as West—by those tacitly or positively against any Federal highway system, to give first heed to the idea of extending the existing Federal aid plan—the road-to-market plan—four years beyond June 30, 1921, and appropriating $100,000,000 a year for post roads during those four years, and $10,000,000 a year for ten years for forest roads. President Wilson and the Department of Agriculture are said to favor this idea against the other.

Whether Congress will act on either or both ideas, and, in case it acts on the Federal idea, whether it will favor the Townsend plan, involving Federal domination throughout, or the regional-representation plan in the Raker-Scott bill, is a problem no man can fathom at this time.

However, the points made to Congressmen in the Federal Highway Council communication and article should help toward action of some kind. It is claimed that waste due to unimproved roads has reached $500,000,000 a year; that the time lost in difficult hauling is equivalent to wasting the productivity of an agricultural army of 250,000 men; that much attention is being given to the railroad problem, representing 15 per cent of transportation, while neglecting the highway problem, representing 85 per cent.

The Manufacturers Record says that even with the expenditure of a billion dollars a year it will be some years before the railroads can be made adequate for the railroad's share of the nation's traffic. It proposes that, if possible to fund the interest due on loans to foreign countries, a portion should be expended on a Federal road system; but that such expenditure should be made anyway; that it would triple the area available for supplying cities with food products. "The automobile has brought light into dark places. It has probably increased the value of real estate to an amount greater than the total expenditures on automobiles since their invention. If there is any one function with which government is properly and unquestionably charged, it is keeping open the avenues of communication."

Engineers' Opinions on Federal Highways

At Columbus, Ga., "Dixie Borderland Highways Magazine" is published monthly for better highways in nineteen Southern and Southwest border states. Recently it sent four questions to the highway department heads of each state in the Union; men in position to answer intelligently on the basis of experience, rather than through mere enthusiasm one way or the other. Nineteen answered.

The first question was: Do you favor, in any form, the idea of a system of Federal highways under the control of a Federal highway commission? Ten answered no. Eight answered yes—one of these because the state's finances, kept scant by huge Federal withholding of area, are insufficient even with present Federal aid to build a road all the way through the state. One did not answer.

Second question: Do you favor a Federal highway system with all Federal aid to the states discontinued? All of the nineteen answered no.

Third question: Do you favor a Federal highway system with Federal aid to the states continued under the present plan? Eighteen ayes, one no.

Fourth question: Do you approve the present Federal aid plan? Unanimously yes.

Firestone's "Careless America" Film Shown

Under the auspices of the state and city of New York, the great film, "Careless America," made by the Universal Film Co for H. S. Firestone, was shown recently to more than 5,000 school children in the Capitol theater, New York, the largest playhouse in the world. It was the opening wedge in a nation-wide safety-first campaign. Secretary of War Baker, Secretary of State Hugo, of New York, Julia Arthur, the actress, and other distinguished persons addressed the children. A committee of 100, with John D. Rockefeller, Jr., as chairman, sponsored the film and endorsed it by their presence and a letter of commendation. Mr. Hugo declared the country owes a debt of gratitude to Mr. Firestone. Secretary Baker said the picture was "thrilling and instructive." The picture is to be shown all over the country.

As to Railway Car Service After March 1

J. S. Marvin, manager of the traffic department of the National Automobile Chamber of Commerce, reports as the result of discussion in Washington that the American Railway Association will continue the Car Service Section of the Railroad Administration. While initiative as to giving service is with the railways, after March 1, they are to sign plenary powers to the Interstate Commerce Commission, as to distribution of cars. The Car Service Section will do all it can, but if any railroad gives poor service, shippers, under the terms of the new railroad bill, may appeal to the Interstate Commission.

Chester Ricker Designing Light Quality Car

Chester Ricker, of Indianapolis, consulting engineer who has as clients several large companies, is working on a light six of 100 inch wheelbase, rated as a four-passenger but which will easily carry five, and which will weigh considerably less than other five-passenger cars and sell for less than $3000. It will be a closed car.

NEW HUMAN RACE COMING.

Not a change in the human form divine—nothing of that sort, glory be! A new human race is developing, though—a race of automotive humans for orders. It's easy business, now, but it isn't going to be, says S. M. How, general sales manager of the Haynes Automobile Co. As in the bicycle, typewriter and cash register businesses, he warns us all, the elimination process will get those who don't begin now to practice the ultimate of good production and intensive selling. He points to the test of time as an inevitable factor in the highly competitive period sure to come. Those who are "delivering the goods" and continue to do so, will be retained in the public's good graces; those who don't, won't. So watch your step; and step lively.

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Carbon Remover

An occasional dose will stop that knock—quiet the motor—and save the batteries. You can do it yourself in ten minutes.

Keep Your Car Young

It isn't fair to yourself or to your car to run it without any attention and then sell it at a big loss. With but little effort you, yourself, can keep your car in such condition that the depreciation will be very slight. We offer for your use **Johnson's Car Savers.** No experience is necessary for their use. They can all be applied by the amateur with perfect satisfaction.

Johnson's Car Savers are of the very highest quality that can be produced. You will find cheaper makeshifts on the market, but when you insist upon **Johnson's** you are taking no chance, for all of our preparations are fully guaranteed.

JOHNSON'S Car Savers

Start today to reduce the depreciation of your automobile. An hour or two every month and **Johnson's Car Savers** will prove their value in dollars and cents when you come to sell or turn in your car.

Johnson's Car Savers have been on the market for several years. Millions of cans have been used by motorists everywhere with entire satisfaction.

For years our employees have been our partners and share the profits. Because of this personal interest unusual care and skill enter into the manufacture of the Johnson products — overhead is reduced to the minimum and we are enabled to sell at a very slight increase over pre-war prices, notwithstanding the tremendous advances on all of our raw materials.

Representative dealers and jobbers all over the world handle **Johnson's Car Savers.** Don't accept or handle unknown substitutes. Write for our booklet "Keep Your Car Young"— it's free.

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RACINE, WISCONSIN

Radiator Cement

In liquid form and easy to use. Will ordinarily seal leaks in from two to ten minutes.

Hastee Patch

A quick, permanent, inexpensive repair for tubes and casings. Can be applied in three minutes at a cost of 2 cents.

Valve Grinding Compound

Will remove pits and foreign substances from valves, giving a velvet seat. Will not cut grooves.

Top Dressing

Johnson's Black-Lac is the ideal top dressing. One coat imparts a rich, black surface just like new.

Auto-Lak

A splendid elastic varnish for bodies, hoods and fenders. A coat will increase the value of your car from 10% to 35%. Dries in 24 hrs.

Stop-Squeak Oil

It seeps between the springs, thoroughly lubricating them. Makes your car ride easier, reduces the liability of spring breakage.

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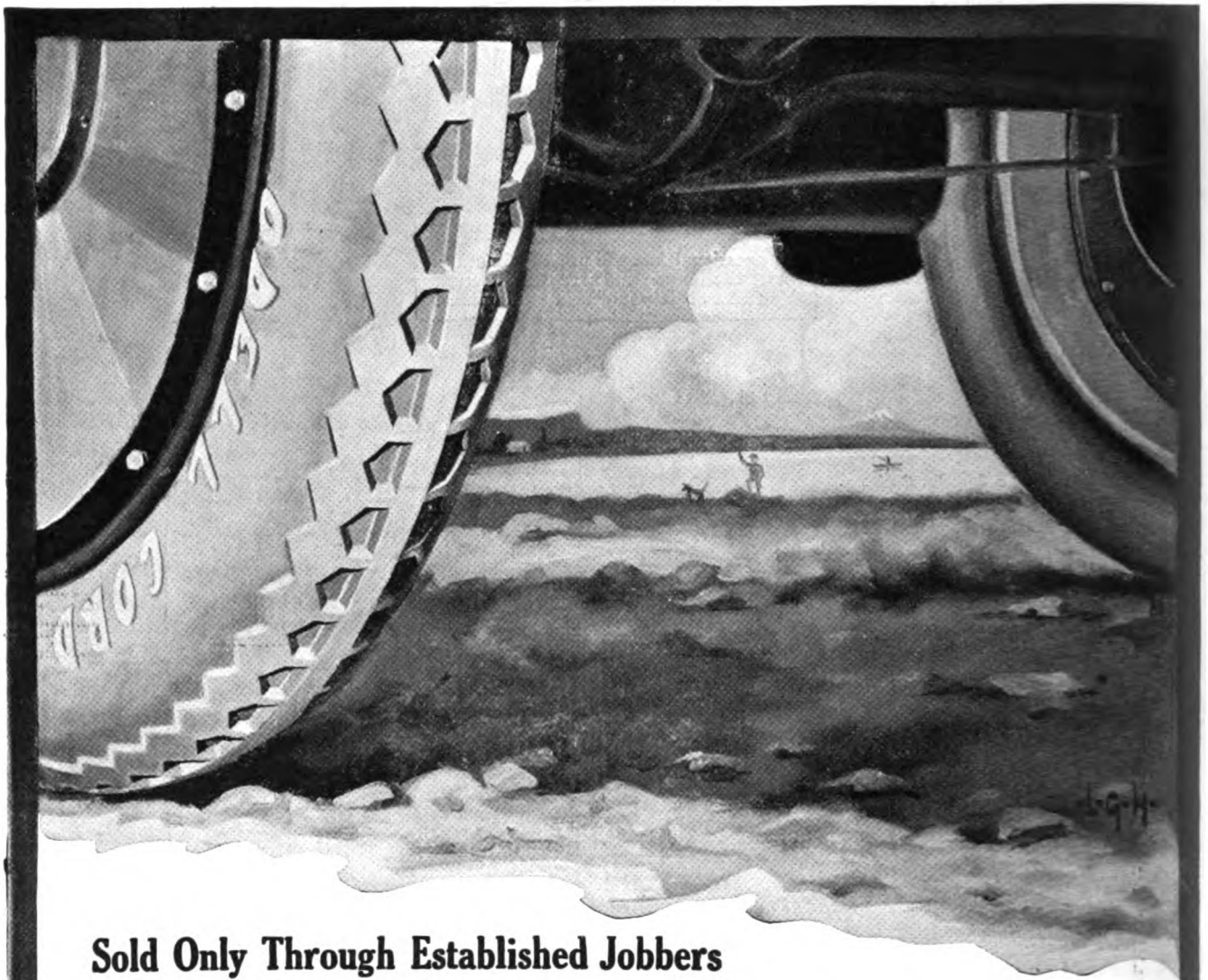

Sold Only Through Established Jobbers

ODELL CORDS

"Built First to Last"

ODELL CORD Tires are made in regular sizes and *standard* oversizes only.

As every dealer knows, the *full and true* oversize for a 34 x 4 (for example) must measure 35 x 4½. The buyer of an ODELL CORD, desiring a 34 x 4 "oversize" does not ask for a 34 x 4 oversize but gets a full, true oversize for 34 x 4 simply by asking for exactly what he wants—35 x 4½.

No wrenching and straining of the differential and chassis, easier riding and more mileage—all these advantages are offered by ODELL CORDS through their rigid conformity to original *fabric* size standards and *standard oversizes* which insure perfect balance and perfect distribution of the car's weight.

Full information upon request. Address your own jobber or write direct to us.

SOUTH BEND FABRICS

Rough and Ribbed Tread

Manufactured by hand by the "slow" process and representing a quality with which no machine-made tire can compare.

Guaranteed 7,000 miles

INTERNATIONAL INDIA RUBBER CORPORATION, SOUTH BEND, IND.

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From "Forty-Nine" to Nineteen-Twenty

In the span of a lifetime, caravans of pioneers have pushed civilization into the four corners of the Nation. The mighty streams have been bridged—the mountains conquered. From the campfires of yesterday, great cities—peopled by millions—tower towards the heavens—monuments of the progress of Man.

Three quarters of a century ago, Progress on the Highway was limited by distance. Distance no longer hampers. Motor truck transportation of today, routed over endless highways, pointing in every direction, carry millions of tons annually. Distance is now measured in minutes and hours.

The pioneer and his ox-drawn prairie schooner of '49 have made way for the motor truck dealer with the modern motor truck—the Napoleon of 1920.

Truck dealers have seen the Napoleon stride to supremacy in the 1 and 1½ ton class almost over night. Dealers with vision are placing their orders for all the Napoleon trucks they can get.

If you are the right dealer we can supply you. Write today for full details.

1 Ton
$1360
[Chassis Only]

1½ Ton
$1660
[Chassis Only

Napoleon Motors Company
Traverse City, Michigan

Export Sales Department
American Motors, 100 Broad Street
New York City

Pacific Coast Representative
F. E. Gerlinger, Santa Marina Bldg.
San Francisco, Cal.

CONQUEROR OF THE HIGHWAYS

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THE TIRE FILLER That Has Made Good

Trouble-Proof Tires With Ample Resiliency

is a combination that has long been sought by the motoring public. Some tire fillers failed to stand up under long service—most of them lacked the essential resiliency. But these two vital qualities were at last combined in

NATIONAL RUBBER TIRE FILLER

It has brought joy and satisfaction to tens of thousands of car owners. It has done away with punctures and blow-outs, vulcanizing, patching, and saved many a long wait on the road-side. Users get 10,000 to 20,000 miles out of every tire. Besides, National Rubber Tire Filler has a wonderful resiliency. It takes the place of the air and inner tube, rides as easy and makes the car a real pleasure.

National Rubber Tire Filler is made of the best grade of rubber, cut in small pieces, treated, moulded and vulcanized by our special process. The result is a compound that is light, strong and resilient that will stand all kinds of hard, rough service. We have been manufacturing and selling it for more than eight years, selling more than 300,000 sets, shipping it into every one of the states in the United States and a number of foreign countries. Let us tell you more about it.

DEALERS

National Rubber Tire Filler sells because it has made good. It combines comfort with economy of tire upkeep. Your customers are going to want it. We have a fine proposition for you. Write us today.

National Rubber Filler Co.

224 College St. MIDLOTHIAN, TEXAS

Portland Holds Two Shows

(Continued from Page 37.)

Already there is a car shortage that will only become more pronounced as the season advances.

There were fewer so-called "special jobs" at this show than in many previous events, but what there were were unusually artistic. The distinction of having the finest special job ever presented at a Portland show undoubtedly goes to the Oregon Motor Car Co. for its Studebaker "bulldog," a car that had been specially built for it, through co-operation of the Studebaker factory, by a Chicago body builder.

The Motor Truck Show.

The motor truck show in the Armory contained 35 different makes of trucks, three tractors and one trailer, and a total of 47 different models. Attendance at the truck show of course did not begin to compare with that at the passenger car show, but those who did come were serious prospects.

The project of a separate truck show was frankly an experiment with the Portland truck dealers. Some of the largest firms did not have entries, yet not another truck could have been crowded into the Armory, and the exhibitors were all more than satisfied with results obtained.

Truck prospects in the Oregon territory are not a whit less bright than those in the passenger car line. A tremendous amount of additional road work is opening up in Oregon this spring, added to which is the fact that more than 100 miles of new paving has been opened since this time last year. All this is creating an enormous demand for trucks. The coming of pneumatic cord tires for trucks is also having a lot to do with increasing their use in parts of the state where road conditions have not yet been improved.

One of the exhibits of special interest at the truck show was that of the new Karavan truck, the manufacture of which has been started in Portland by the Karavan Motor Truck Co. The leading spirit in this company is E. D. Van Dersal, for the past ten years a pioneer in the motor car and industry in Portland, first as salesman and later as dealer and distributor for various lines. The Karavan is being manufactured at the Hesse-Martin Iron Works in Portland of such standard units as Buda motor, Sheldon worm drive and rear axle, Borg & Beck clutch and the like.

The Portland shows were held under the auspices of the Portland Automobile Trades association, an organization subsidiary to the Dealers' Motor Car Association of Oregon, formed for the purpose of arranging and holding shows, of which this was Portland's eleventh annual event. Officers of the trades association, in direct charge of the show, are H. H. Eling, Willys-Overland-Pacific Co., president; H. M. Covey, Covey Motor Car Co., vice-president; A. S. Robinson, Robinson-Smith Co., secretary; A. B. Manley, Manley Auto Co., treasurer, and M. O. Wilkins, show manager.

The committee of truck dealers in charge of the truck show was composed of Del Wright, William L. Hughson Co., chairman; F. M. Leeston-Smith, Oregon Motor Car Co., F. H. Nash, Atterbury Truck Sales Co., and Mr. Wilkins, show manager.

Utah has some nice Highway Bonds to sell.

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"After 23,000 Miles, Hood Tire Carcass Is So Good We Are Having It Retreaded"

Hood Arrow Tread
Expansion-Process Cord Tire.

January 9, 1920.

Hood Tire Co.,
Dallas, Texas.

Dear Sirs:

Over two years ago, I bought of you, with some other tires, a 33x4 smooth tread Hood Tire and immediately put the same on one of my own Dodge Roadsters.

We have driven this car over twenty-three thousand miles without once taking this tire off of the wheel that we originally put in on. For the past four months, have driven this car in service in Hill County where the roads are almost impassable. The carcass of this tire being still good, we today took the tire off and are having it retreaded, and expect to get many more miles of service from same.

Yours very truly,

(Name on request.)

Hood Arrow Tread
Extra-Ply Fabric Tire.

MOST motorists know from experience that at considerably less than half the above mileage, the carcass of the tire of average quality is fit only for the scrap heap. Hood Tire users, on the other hand, know it is a fact that the carcass of most Hood Tires, after having delivered thousands of miles more than ordinary tires, are in such good condition it is profitable to retread them.

The unusual strength of carcass attained by the extra ply and the use of highest quality of material, has made possible the reputation Hood Tires have established for greatest mileage at lowest-cost-per-mile.

If you want a tire that eliminates the adjustment nuisance, and insures mileage without worry, make the acquaintance of the Hood Tire dealer in your town.

If there isn't a Hood Tire Dealer in your town write our branch office for name of nearest dealer.

BRANCH:
SAN FRANCISCO, CAL.
118 New Montgomery St.

BRANCH:
LOS ANGELES, CAL.
1223 So. Olive St.

Canvas Rubber Leather HOOD FOOTWEAR

HOOD RUBBER PRODUCTS COMPANY

Cord Fabric Solid HOOD TIRES

Watertown, Mass.

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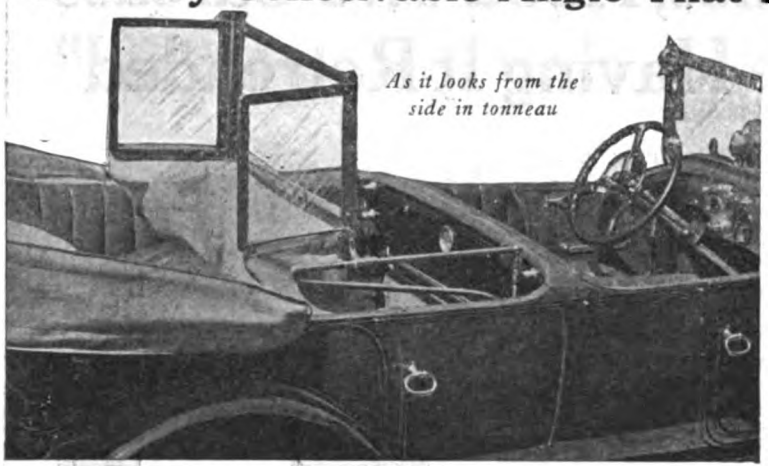
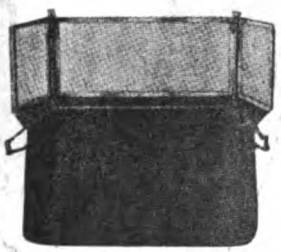
It's Because the New Perkins' Tonneau Windshield Can Be Set at every Conceivable Angle That New York Has Adopted It



As it looks from the side in tonneau

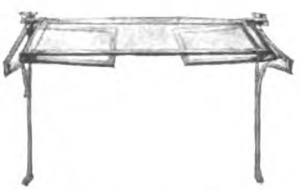
On the smart cars on "The Avenue"—the Locomobile, the Packard, the Pierce Arrow and other cars—on the foreign cars on "The Drive"—you find the new Perkins'. Even the Queen of Denmark has one on her new car. European manufacturers are clamoring for it.

Why?



Wings adjusted at slightly inclined angle

Wings spread and shield moved close to occupants



Folded and extended for table

Because, as these illustrations show you, the Perkins' Tonneau Windshield can be positively adjusted at any angle. Each movable part of this windshield operates independently of any other part. The center plate, with side wings at any angle, can be moved closer to the occupants of the tonneau than any other windshield on the market.

The Perkins' Tonneau Windshield is designed to overcome draughts and wind pressure on any car. Nearly every car provokes a different angle draught. The front windshield, wheel base and other features of motor cars cause this wide variation in angles and the only way to meet such variations, to give your car customer absolute protection against them with a non-rattling, positive tonneau windshield, is to sell them a Perkins'.

In finish there isn't a windshield made that can compare with it. All parts are made of heavy tubular metal—heavy nickeled—or finished and rubbed in any color desired to harmonize with the car. The side wings and center shield are fitted with the best 3-16 plate glass, with oversized metal sashes to protect it against sudden shocks. The metal tubes are reinforced at all strategic points and the windshield is adjusted by an easy, simple turning of a substantial, four-way locking, thumb screw that won't jar loose. Overall spread of 65 inches.

Every Perkins' Tonneau Windshield is sold with a high grade, attractive, waterproof curtain that is applied with simple dot catches. When lowered out of place the Perkins' doesn't take up any more space than an ordinary robe on your cowl rack. It can be attached to any car in a remarkably short time.

The New Perkins' Tonneau Windshield is now being sold by the majority of high-grade dealers in New York City. It is not a cheap product but a quality device in every detail. We have requests from all sections of the country from car owners who have seen our shield in New York or heard about it. It is our intention that this windshield shall be available to owners of high priced cars in all sections of the country. Territorial agencies are NOW being established. If you are interested in handling "extra equipment" that means a most liberal profit, write now for prices and illustrated literature.

PERKINS TONNEAU WINDSHIELD COMPANY, Inc.
1931 Broadway, New York City

PERKINS TONNEAU WINDSHIELD

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Wilson dependable MOTOR TRUCKS

Why Do Motor Truck Dealers Make Money?

This is a very frank and important talk to automobile dealers, and those intending to enter the business, relative to the vital question of profits to be made and how to make them

THE established truck dealer who has gained wisdom through long experience knows how easy it is to sell a well advertised motor truck.

And he knows the hardships that come with trying to sell an unknown truck.
It is seldom, therefore, that you find the experitnced motor truck merchant contracting for an unadvertised and unknown account.

He does not want to do the pioneering. He does not want to put his time and resources back of an unknown product. When, for example, he tries to sell a customer the "Blank" truck, he does not want to hear the prospective buyer say: "The 'Blank' truck? I never heard of it!"

You old dealers know that this does not spell success. And you younger ones, and you who are thinking of going into the business, can gather a lesson from the older dealer's experience.

For the American buyer today does not absorb voluble promises and doubtful facts as he may have done in days of yore. He has learned something and he is influenced by, and guided to the door of, the truck maker who has sufficient faith in his product to come out boldly in great advertising channels and state his claims openly to the world—in such reputable publications that the very fact that they publish his claims is a substantial guarantee of their dependability.

The appearance of this advertisement marks the thirty-seventh year of the continuous existence of the J. C. Wilson Company as a manufacturer of heavy duty haulage vehicles —first horse-drawn and then motor-driven. For many years of this time we have been telling the public, through the medium of the great national publications, of the worth of Wilson motor truck construction and the dependability of Wilson truck service.

The result is that the public KNOWS Wilson trucks. In addition to their great mechanical worth they are an advertised asset to the dealer, they possess a GOOD-WILL VALUE which makes sales easier for him, and creates a greater re-sale value for the retail buyer.

The name "Wilson" as applied to motor trucks is so deeply imbedded in the public consciousness, so thoroughly intrenched in public favor, that sales (and re-sales) of Wilson trucks are infinitely easier to make than if we depended upon circulars and postal card campaigns to acquaint the public with our product.

There can be no question about this. What are the big selling passenger cars? What are the big selling soaps? What, even, if you please, are the big selling chewing gums? The answer writes itself, and you know it: They are the passenger car, the soaps, the chewing gums—AND THE MOTOR TRUCKS—whose makers come into the open and state their claims in the great journals of the world.

This is only good, sane sense. If you sell an advertised product you are not up against the continued, heart-breaking barrier of obscurity, of "I never heard of your truck."
It may be that some of you old dealers who read this are getting ready to take on the sale of motor trucks, or that some of you men in other lines of business are thinking of taking up the sale of trucks as a vocation. If you are we would like to hear from you. Perhaps your territory is still open.

Write us. There's money in the business, and it's a clean business—a business man's business.
Let us send you (free) a booklet we have prepared called "Money in Motor Trucks." It is interesting and instructive and will open up to you an avenue for clean profit-making that will be to you an industrial revelation.

1½, 2½, 3½ and 5 tons Capacity---All Worm Drive

J. C. WILSON COMPANY

DETROIT, U. S. A.

37th Year

COMMERCIAL VEHICLE MANUFACTURERS

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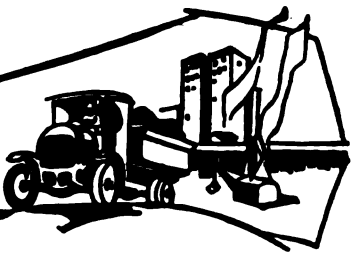
The Car of Commerce



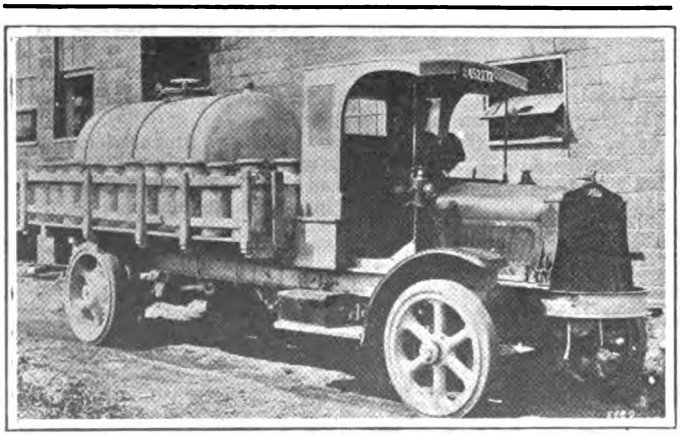
Transport Corps Endangered

National Automobile Chamber of Commerce Members Given Facts to be Used as Levers on Congress

GENERAL MANAGER REEVES has placed facts before members of the National Automobile Chamber of Commerce, as to the proposal in the army reorganization bill to have all Government motor transportation handled as a unit, thus eliminating the Motor Transport Corps. The Motor Truck Committee of the N.A.C.C. and the directors do not favor the change, and it is suggested that members of the same view communicate with their Senators and Representatives.

The reason given for retaining the Motor Transport Corps' individuality, instead of having it a part of a consolidated transportation corps in the army, is that it can be operated more efficiently, either in war or peace, as a separate unit. The point is made that under a consolidation, supply depots would not function properly in war if over-burdened with supplies and repair parts for highway and marine transport, broad and narrow-gauge railways, and animal power transport. It is believed no single depot could handle the various kinds of repair, and that automatically they would revert to the present plan, even if the new law were passed; that from a military viewpoint a consolidated shop is impracticable; that different men and methods are needed for the different transportation types; that generally motor transport repairs are made not in shops but on the spot; and that men specializing in this work could not function well if absorbed into a general transportation scheme.

Members are asked to name these points, in writing to their representatives in Congress. The effective service of the Motor Transport Corps, both on the battlefields in France and in transporting troops and equipment, as well as at home in moving vast stores for shipment to our forces abroad, is recalled.



THIS 900-GALLON THERMOS KEEPS MILK COOL IN HOTTEST WEATHER.

From a nucleus of two White trucks, installed as an experiment in 1916, one milk company uses a fleet of 81 Whites for collection and delivery. The company's collections cover a radius of 150 miles near Pittsburgh. Particularly interesting is the milk conveyor used in the vicinity of the company's condenser. A specially built glass-lined steel tank of 900 gallons capacity on a 5-ton chassis hauls milk from a collection station ten miles distant. A rack around the tank carries additional cans. Two round trips are made daily, with a third trip in the busy season. The glass tank, which practically is a giant thermos bottle, keeps the milk cool even in the hottest weather.

State Marketing Officials' Body Acts

The National Association of State Marketing Officials, recently formed in New York, emphatically approves the rural motor express, the many advantages of which were told by its transportation committee. The importance of this approval lies in the fact that the object for which the body was formed is to co-ordinate the work of state marketing agencies, to prevent duplication of effort, etc. The association is sending out broadcast publicity, pointing out that the motor truck express is the logical means for short hauls; that it can operate wherever there is a road; that it can shift as traffic shifts, without loss of valuable property such as rails, depots and franchise; that investment is small; that the farmer is given more time to devote to production; that his products yield him more yet cost consumers less, and are delivered much more quickly by elimination of several handlings.

Twenty states have become members of the association. It is noted that only one Western state, South Dakota, is a member, and that the treasurer is a Florida man. Dr. E. H. Porter, commissioner of the division of food and markets on the New York State Department of Farms and Markets, is president. The value of the organization is indicated by its seven permanent committees: Organization, standardization, co-operative organizations, market reporting, interstate relations, transportation, legislation.

Standard Motor Trucks Sell Well Abroad

Despite depreciation in foreign exchange, more inquiries from abroad are being received by the Standard Motor Truck Co., Milwaukee, than before the war,—contrary to expectations, especially as many firms in England, Switzerland, France and Italy were producing motor trucks in quantities. Reason for the demand for American trucks include price, due to large production; consequent low price; reliability; and shortage since diversion of European efforts into peace channels. F. J. Fisher, secretary and treasurer of the Standard, believes that unless the cost of exchange prohibits, the foreign trade will continue a number of years, and that thousands of American trucks will be required in the Orient and South America as soon as adequate roads are built. Many European firms have arranged to pay F. O. B. American ports.

H. R. L. Truck Born in Seattle

To be produced on a quality, rather than a quantity basis, yet to the extent of 300 the first year, the H. R. L. truck has been announced recently to be manufactured in Seattle, Wash. Three men prominent in the sales of trucks and general machine work in Seattle, J. J. Hendricks, H. N. Rothweiler, and J. A. Lagoe, compose the H. R. L. Motor Co.

The new H. R. L. truck will be built in three-quarter to three-ton capacities, larger sizes later. Deliveries will start in March.

The Doane truck, built in San Francisco, has opened distributing connections in Southern California, where the Doane Motor Truck Co. of Southern California, located at 220 W. Pico St., Los Angeles, is now dealer.

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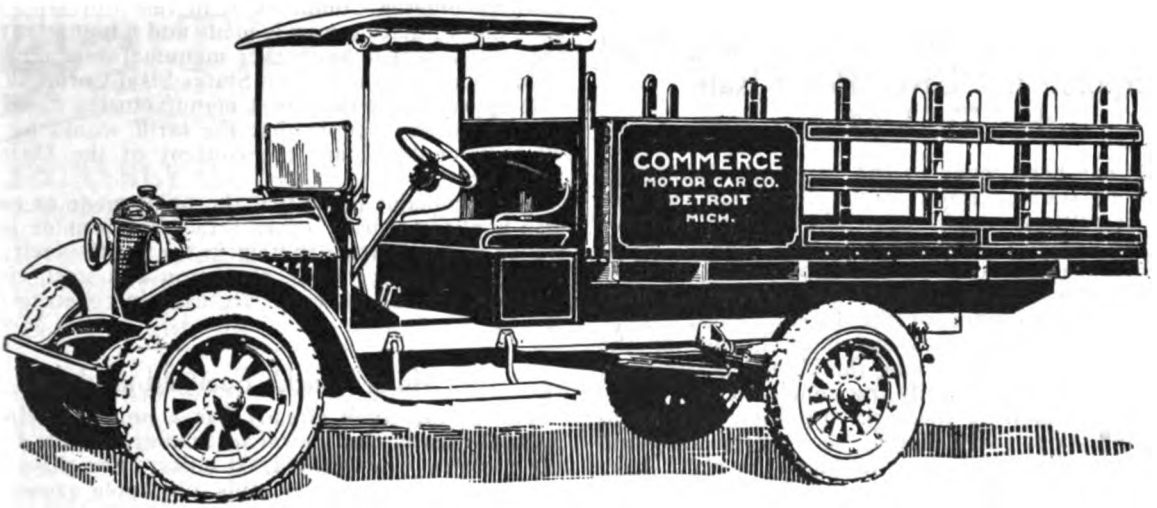

Commerce TRUCKS

Commerce Salesmen Are Proud of These Names—

Continental Red Seal Motor
Torbenson Rear Axle
Timken Bearings
Detroit Gear Co. Transmission
Highland Commercial Bodies
Detroit Steel Products Springs
Eisemann Magneto
Spicer Universal Joints
Willard Storage Battery
Zenith Carburetor
Stewart Vacuum System
Jacox Steering Gear
Bijur Electric Generator
Champion Spark Plugs

There's not one of the list that calls for apology or explanation.

Not one that Commerce salesmen feel that they would rather omit from their sales talk.

For every name is a sales asset—and a service asset too, for every one stands for honest value and proven worth.

It's the way that Commerce trucks are made that makes them in such wonderful demand.

The COMMERCE MOTOR CAR CO.

DETROIT :: MICHIGAN

FREEMAN A. McKENZIE,
CITY GARAGE, INC.,
1205 South Olive St., Los Angeles, Cal.

McCRACKEN MOTOR CO.,
Portland, Ore.

COMMERCIAL MOTORS CO.,
Seattle, Wash.

C. P. KIEL,
1830 Van Ness Ave., San Francisco, Cal.

SULLIVAN TAYLOR MOTORS, LTD.,
1260 Granville St., Vancouver, B. C.

W. B. WOOD,
Pacific Coast District Manager,
1205 South Olive St., Los Angeles, Cal.

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Good for Goose and Gander

Moreland Tells Interstate Commerce Body Steel Corporation is Given Better Rate than Truck Men

Complaint has been made to the Interstate Commerce Commission by the Moreland Motor Truck Co., of Los Angeles, that railway freight rates discriminate in favor of the United States Steel Corp., to the disadvantage of Pacific Coast manufacturers. The complaint is, it is unlawful, according to the national law to regulate commerce, and many decisions of the Interstate Commerce Commission, to rate an article based on its use by the Coast manufacturers, while giving the United States Steel Corp. a lower rate on identically the same article.

The complaint refers to the tariff provision relating to plate steel, and states that channels, such as the Moreland Co. has shipped from Milwaukee, if shipped in plate shape would be plates; that the same item of the tariff permits that plates be made into channels, either at point of shipment or at any intermediate fabricating point while goods are in transit; that nowhere in the tariff is it mentioned that channels used in the construction of motor trucks are excluded from the privilege stated in the tariff; that, in brief, the rate is on channels and is not based on the use of the channel.

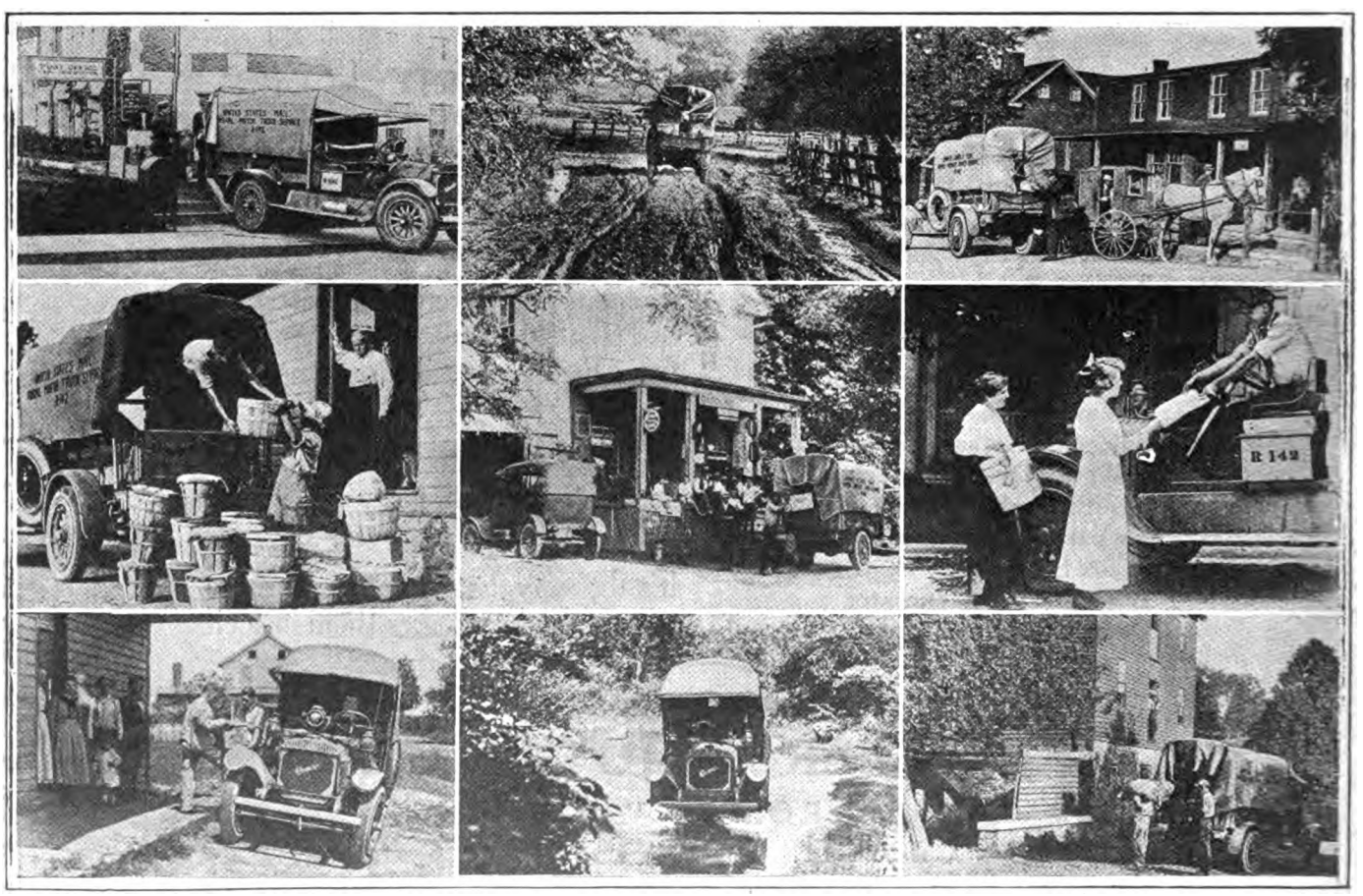
The complaint assumes that as the railways charged only the channel rate from November, 1912, to December 30, 1919, regardless of the use to which channels might be put, it will be difficult for them to explain to the Interstate Commerce Commission, in the Moreland case, why such differentiation now is made and a higher rate charged the Moreland Co. and other manufacturers on the Coast, than is charged the United States Steel Corp.

It appears that the Coast manufacturers have been told by the railway people that the tariff would be corrected "if they could obtain the consent of the United States Steel Corp."

The complaint holds that the point made as to channels also applies to many other articles of iron or steel, mentioned in the particular item in the tariff—such as angles, bars, bolts, braces, nuts, plate iron and steel, rivets, rods, washers, etc., all of which are used in constructing motor trucks.

Motor Truck's Foothold in Hawaii

The motor truck already has a non-slip grip on commercial uses in the Hawaiian Islands—which, from tip to tip, measure practically 1,000 miles. For the purposes of express companies, flour mills, pineapple growers, lumber concerns and others, the motor truck is it, and becoming more so all the time. The Inter-Island Steam Navigation Co., Honolulu, which does considerable traffic handling between the various islands, uses trucks extensively. At Hilo, about 700 miles from Honolulu, the Wells-Fargo Express Co. uses them in its lumber trade. There are more than 200 Federals on the islands, being used for a great variety of hauling.



COMMERCE MOTOR TRUCKS DOING MONEY SAVING SERVICE ON U. S. RURAL POST ROUTES.

Farmers in the West, as well as in the East, are being urged by the Post Office Department to use the rural post service. In the West, Utah is notably to the fore in this respect. A number of speedy Commerce trucks made for war purposes, now used in this service, are handling packages to capacity, on 160-mile routes. "Stop the Truck" posters, hung by the Government all over the country, are having effect on rural producers. Some even have their children carry packages to collection points, on their way to school. One of the pictures above shows a postal truck arrived at one of these points, the schoolhouse itself, which is the community center of Park View, a section in Washington, D. C. The adjoining picture shows how cord tires serve where roads are bad. Then there is a comparative view of the Old Dobbin way and the motor truck way of handling mails, the latter affording much greater capacity and speed. Fruit or mails—it's all the same to the truck, as the basket pictures shows. Next is another parcel post picture, with the country store the distributing point for both "imports" and "exports," where farmers can bring their parcels to be shipped, buy things, and go home again. Then there's a glimpse at the parcel post man on R 142, who has driven right to a farmhouse door; and another, at a country warehouse platform. The view of a ford was taken in the historic Gettysburg country. Finally, a scene at the old mill. Note the water wheel, remember the old-time day it symbolizes, and swing your mental camera up to the present, typified by the truck.

No Other Truck Has These Three Features

PROBABLY the most striking Clydesdale feature is the Patented "Driver Under The Hood" which relieves the strain on every part of the truck by automatically regulating the generation of power to meet every change in the "pull."

Prospects are surprised when given a demonstration of this Clydesdale feature. It is hard to make people believe, without actually seeing the "Driver Under The Hood" in operation, that it will take the truck up hill, down hill and through unusual conditions on the level without changing the speed, and without attention of any kind from the driver.

Another feature is the Clydesdale radiator. Construction of cast aluminum tanks, seamless copper tubes and staunch guard bars, it requires a minimum of repairs under the roughest conditions. Its design insures proper cooling.

A third feature is the appearance of the truck itself. The trim, sturdy construction reflects skillful engineering and carries the conviction that Clydesdale strength and power are equal to any emergency.

These and other outstanding Clydesdale features often influence a sale when a choice is made between Clydesdale and other good trucks.

No Other Truck Has It

"The Driver Under the Hood"

One to Five Tons Net Load

THE CLYDESDALE MOTOR TRUCK COMPANY
CLYDE, OHIO

CLYDESDALE

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EASIER TO SELL

than compete against

DEARBORN TRUCKS

THE new 1920 Model 48 Dearborn 2-ton, Worm-Drive Truck is the truck for the dealer who believes in satisfying customers. It is 500 to 2,000 lbs. lighter than any other worm-drive truck, the result of the new super-strength, scientific, light-weight design.

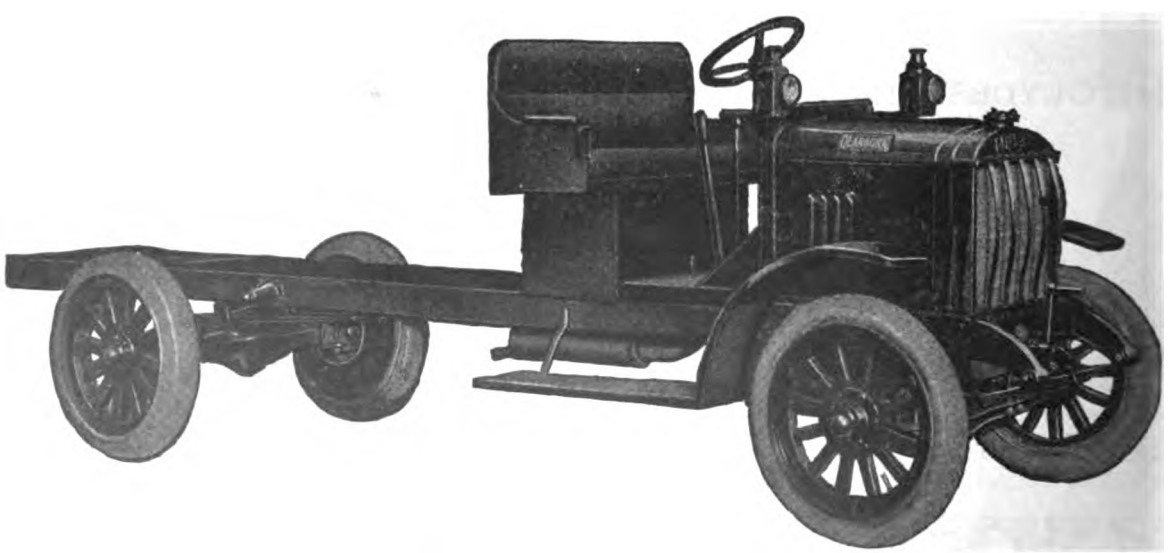
This means a direct economy that first sells the user then satisfies him.

The Dearborn is fortified against mechanical liability by the use of these World-Standard Working units—Buda Motor, Bosch Magneto, Stromberg Carburetor, Stewart Vacuum Feed, Fuller Clutch and Transmission, Standard Worm-Drive Rear Axle.

Some one in your territory will sell the Dearborn. *It's easier to sell* than compete against it. *Good Dealers* are requested to investigate our liberal dealers' proposition. Write today.

The Dearborn Truck Company

2015-17 So. Michigan Ave., Dept. C. Chicago, Illinois



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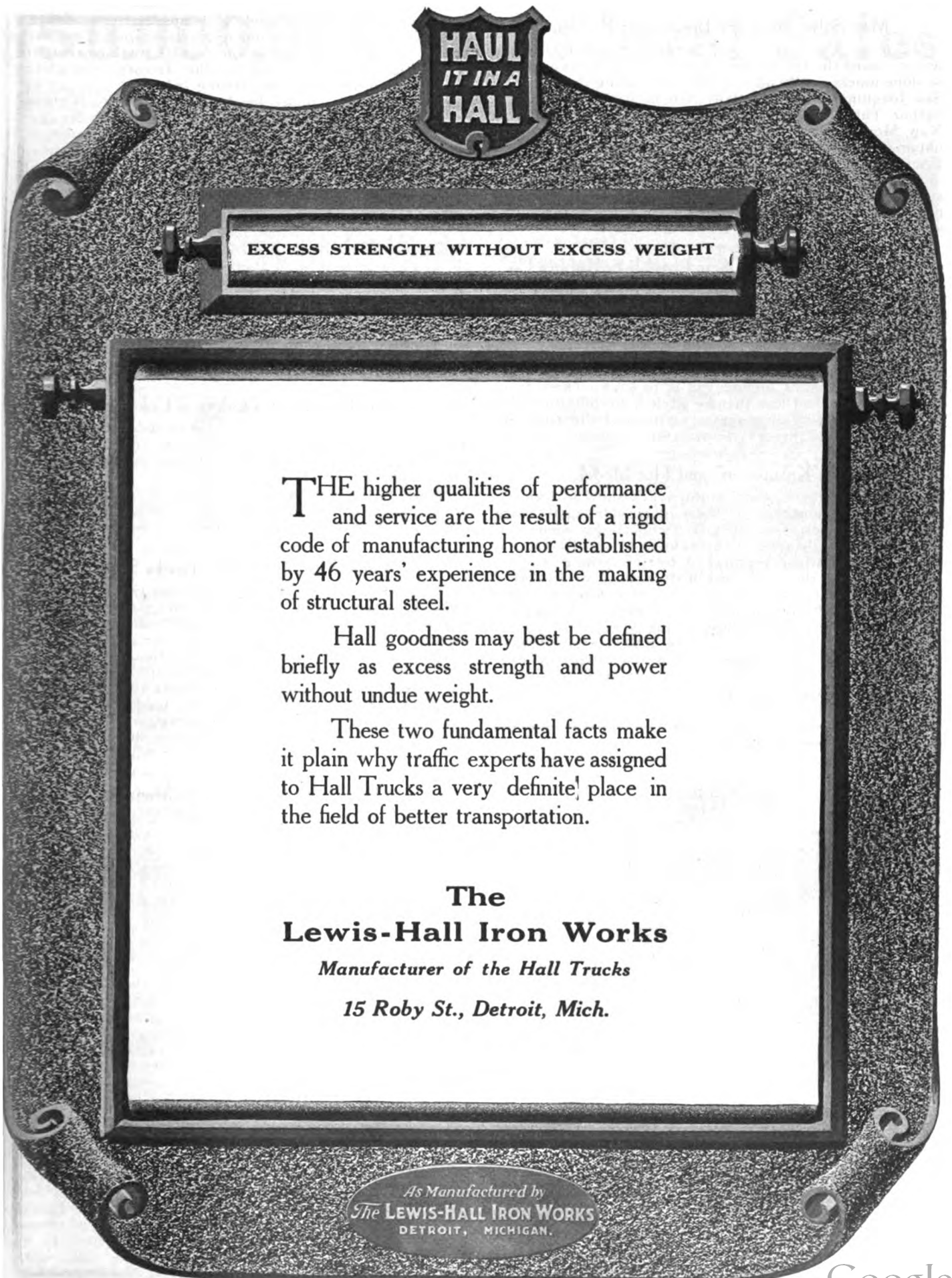

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May Solve Monterey Breakwater Problem

Monterey, Cal., wants and needs a $1,000,000 breakwater; asked the Government for it; was told it could not be done unless a railroad was built connecting the city with San Joaquin Valley, especially rich in fruit to send to a harbor. This meant great cost, so the project was dropped. Now Monterey has high hopes, as the result of a report obtained from the Firestone Ship-by-Truck branch in San Francisco. It appears that a great business can be obtained immediately—an ample return-load business—assuring the success of any reasonable number of motor transport companies, if the city is made a practicable port; and so the petition is to be renewed.

Advice on Pneumatics Offered by U. S. Rubber Co.

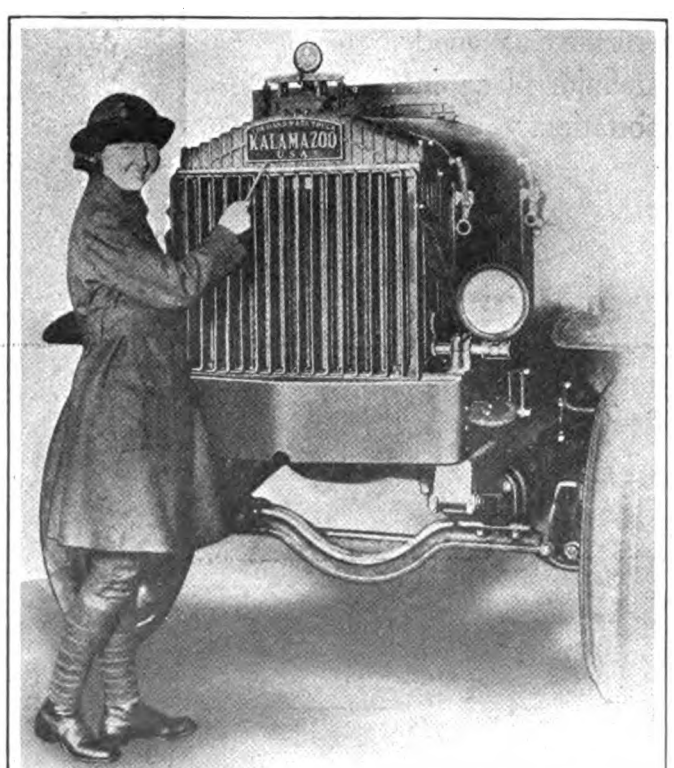
President J. N. Gunn, of the United States Rubber Co., while saying his company was the first to develop pneumatic truck tires, and that the superiority of such tires in many respects is unquestionable, advises that in some instances the design of engine, transmission, differential gears and brakes may be such as to make a change from solids to pneumatics unwise. It is to save owners from disappointment and loss that he advises consultation with tire experts, saying that representatives of the company are in position to give any information needed.

"Miss Kalamazoo" and Her Model

A feature of the national motor truck show in Chicago was "Miss Kalamazoo," a thoroughly competent truck operator and possessed of rare technical knowledge of motor trucks. Visitors to the exhibit of the Kalamazoo Motors Corp., when approached by this young woman, plainly showed they took the matter more or less as a joke. When she answered their inquiries, however, their skepticism gave way to downright interest. She became one of the outstanding features of the whole show.

There were three models in the Kalamazoo exhibit—1½, 2½ and 3½ ton capacity. Visitors invariably estimated their carrying capacity considerably in excess of their rated tonnage, this being due to the oversize parts used throughout. A feature of strong appeal was the equipment—electric head and tail lamps, starter and horn, all-steel enclosed cab, motometer, hub-odometer, radiator guard, towing hooks, besides the regular truck equipment. In addition, each truck leaves the factory completely painted in an attractive and lasting color.

Freak ideas are avoided by the builders of the Kalamazoo, and according to the observation of H. G. Stiles, general sales manager, at the Chicago show, truck buyers are shying away from freaks and toward the standard types.



"MISS KALAMAZOO," A GENUINE KALAMAZOO MOTOR TRUCK EXPERT.

Garford Export Department to New York

President E. A. Williams, Jr., of the Garford Motor Truck Co., Lima, O., announces the removal of the Garford export department, April 1, to New York City, where offices have been secured at 41 Park Row. The removal is made to facilitate Garford's foreign business which has been enjoying a phenomenal growth since the war. Several thousand Garford motor trucks are shipped from the port of New York in the course of a year. Earl F. Sayers will continue as director of exports, and will be in active charge at the New York office.

Standard Truck Dealers in Colorado

The Standard Motor Truck Co. announces the appointment of the Standard Motor Sales Co., Inc., of Denver, Colo., as distributors of Standard trucks in Colorado and surrounding states.

The company contracted for about $750,000 worth of Standard chassis for 1920. W. S. C. Smith is president and A. J. Patterson vice-president.

Large Fleet of Acason Trucks Solp

The Acason Motor Truck Co., Detroit, is pleased with what it believes to be the largest individual fleet order ever sold in the South, being for a large number of Acasou trucks of 2½-ton capacity for the Atlantic Salvage Co., which is purchasing and salvaging Southern army camps and equipment. The sale was made by J. C. Donner, of the Donner-Acason Co., Newport News, Va. It will be called the Yellow Fleet and will be used wherever the salvage company operates. Acason service for the Government and at Hog Island shipyard was an important factor in bringing about the sale.

Death Calls Sanford Sales Manager

C. E. Williams, general sales manager of the Sanford Motor Truck Co., Syracuse, N. Y., died suddenly of pneumonia in Rochester. He had come two months before to the company, having been Selden sales manager a long time. Earlier he was in the Federal sales department in Detroit. He was one of the most promising of the younger sales officials.

Trip Reveals Need of Standardized Truck

On a recent trip of inspection through the East, W. G. Rath, general manager of the Napoleon Motors Co., Traverse City, Mich., noted not only great increase of bank deposits and other signs of prosperity, and especially present and indicated vast additions to the mileage of good highways, but marked attention being given to the motor truck as a factor in building up business. Standardization, he is convinced, will go far to simplify the industry.

Anheuser-Busch Building Truck Bodies

Where beer was brewed—the stuff of more than 2¼ horsepower—motor truck bodies are being built. For many years the Anheuser-Busch Brewing Assn., St. Louis, made its own wagons, and when it began the use of motor trucks it bought the chassis and built bodies suited to its purposes. The bodies now being made are sold, with demand exceeding supply. Martin Kutz, superintendent of the department in the old days, is managing the plant.

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$50,000,000 of Federal Sales

3-2 Ton operated by H. J. Heup, Hales Corners, Wis. Hauling milk

2 Ton operated by Oklahoma Furniture and Mfg Co., Oklahoma City, Okla.

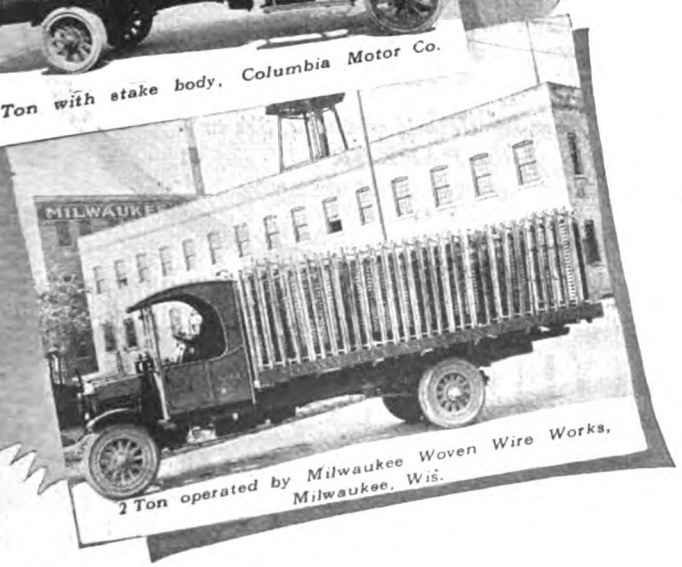
Operated by Mistele Coal and Coke Company Detroit, Mich.

5 Ton operated by Brownell & Field Co., Providence, R.I.

2 Ton Federal operated by Mr. Eastman, San Diego, Cal. Eastman Fruit Co.

This is the sign of the "Tenth Year Federal." A sign significant of ten years of success in every field of truck transportation.

2 Ton with stake body, Columbia Motor Co.



2 Ton operated by Milwaukee Woven Wire Works, Milwaukee, Wis.

The fact that over $50,000,000 has been spent for Federal Trucks during the past ten years speaks plainly of the confidence in which the public holds Federal.

Nothing that we know of could evidence more plainly the present value of a Federal dealer's franchise.

FEDERAL MOTOR TRUCK CO.
DETROIT, MICHIGAN

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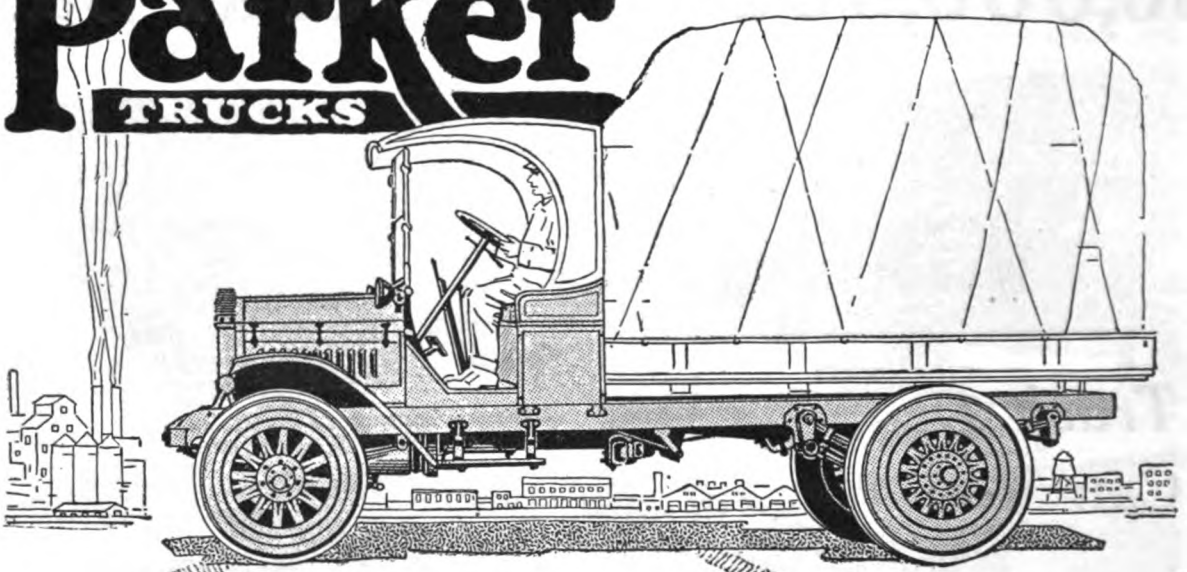
Parker TRUCKS



Brain and Brawn Built Between Road and Load

THE PARKER stands up and stands out, where other trucks fall down. It is not brightened, and burdened, with truck niceties. It is truck *brain and brawn built* with truck necessities, from the stand-points and strain-points of road and load. And *that* is the *truck-point* to consider.

From its specially selected, road and load, steel construction materials, its "gas" and oil-easy, repair-free, plenty-powerful, war-and-world-famous MILITARY TYPE WISCONSIN MOTOR, step by step to its final plain battle-ship gray finish—THE PARKER TRUCK is the utmost travel and transportation utility and stability on four wheels.

The strong type of business men back of THE PARKER TRUCK *insist* upon this strong type of truck.

Before you invest in new truck cost and the "upkeep package" tied on, learn all about THE PARKER and its road and load advantage features. Your learning will cost nothing that way; but will save money for you.

Write now for details of the 2, 3½ or 5-ton PARKER

DEALERS

It is no trick selling PARKER TRUCKS; there are no tricks to sell. Buyers quickly see PARKER advantages. Write for our 1920 Prosperity Proposition to Dealers.

PARKER MOTOR TRUCK CO.

MILWAUKEE · WISCONSIN · U.S.A.

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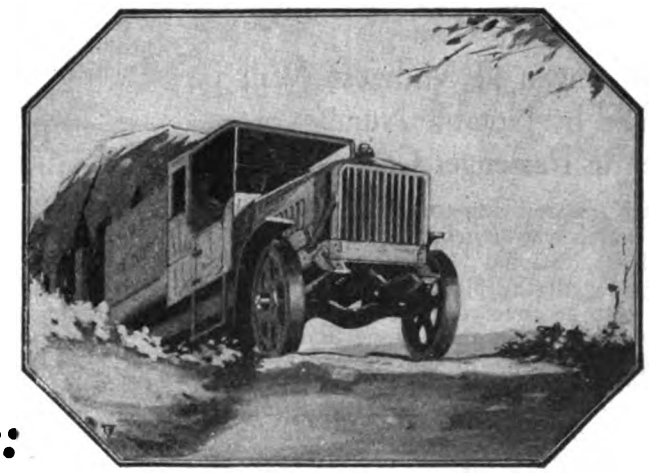

Truck Dealers:

Can You Neglect to Investigate Jumbo?

In three years no Jumbo dealer has dropped the line; there isn't a single dissatisfied owner in all the world that we know of.

Jumbo trucks in operation show records of 20,000 to to 30,000 miles without a cent for repairs—without even changing tires.

That's because Jumbo Trucks are built with a large factor of safety and survive the abuse of heavy haulage.

Sales resistance has been reduced to an absolute minimum in the new Jumbo models; Jumbo Trucks are sold by dealers without false claims or misleading statements of any kind. It is not necessary to misrepresent Jumbo Trucks in order to make sales.

Brief Specifications:

Straight line drive under load, Clark Internal Gear Drive Axle, Buda Motor, Zenith Carburetor, Simplex Governor, Eisemann Magneto, Brown-Lipe Transmission.

Jumbo standard equipment includes; steel cab with fore doors, windshield, sliding sash curtains opening with doors, electric lights, storage battery, generator, ammeter, radiator shutters, motometer, fan shroud, radiator guard, extended frame forming bumper, hub odometer, pig-tail tow-hooks, spring draw bar, and 14 other big features.

An aggressive and far reaching advertising campaign will carry the Jumbo message to every possible prospect.

These facts comprise but a small part of the Jumbo story. We believe we can convince any alert dealer of the exceptional future offer by Jumbo Trucks. Write for literature and sales plan.

NELSON MOTOR TRUCK CO., Saginaw, Michigan

C. E. ALBRIGHT, Pacific Coast Manager
816 Balboa Bldg., San Francisco, Calif.

Pacific Coast Distributors:

JUMBO TRUCK CO. OF CALIF., Los Angeles, Calif.

F. B. RIVAS CO., 816 Balboa Bldg., San Francisco, Calif.

MITCHELL, LEWIS & STAVER, Portland, Oregon—Spokane, Wash.

MITCHELL MOTOR & SERVICE CO., Seattle, Wash.

JUMBO
The Complete Truck

The Most Complete Line of Completely Equipped Internal Gear-Driven Trucks in America.

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An Impressive Reliability

Motor Truck Caravan in Midwest Will be Accompanied by Notable Number of Men in Passenger Cars

ARRANGEMENTS are being concluded for the great fleet of cars which will be necessary in the conducting of the First National Motor Truck Reliability Contest in June, under the auspices of the Omaha Bee. The 2,500-mile route to be covered in 25 days of running, with three Sunday layovers, is a long one and this will necessitate carrying the officials in touring cars.

In addition to these, motor trucks will transport the engineering corps which will travel ahead of the contest to look after bridges and to see that everything is safe.

Another truck will be necessary for the Red Cross, to look after any who may meet with accident or become ill.

There will probably be another car for the photographers and moving picture men, as the event is to be covered thoroughly in a film which will be displayed throughout the country, and in the Money Belt district especially after the contest.

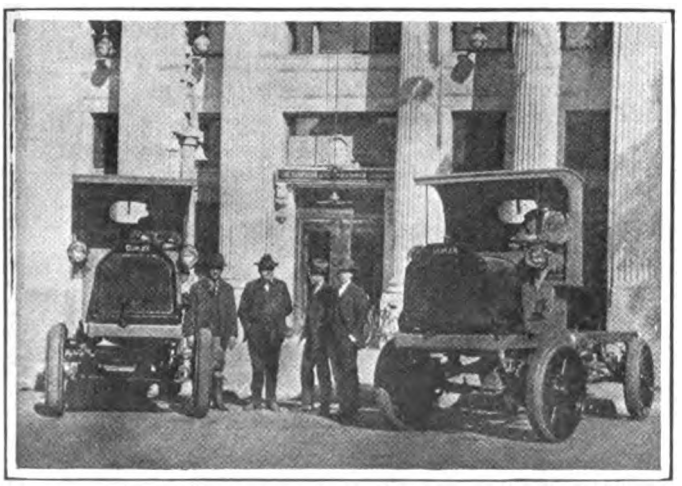
The referee, appointed by the American Automobile Association, will have a car of his own as his work will keep him traveling up and down the line every day.

There will be another touring automobile for the pilot who will go ahead of the run. There will be still another for the car laying the confetti, so necessary on a trip of this character, to prevent the competitors from going wrong while on the road. Delays of that sort are costly. Press men will travel in a number of special cars provided for them and will not be forced to join with officials. They will at all times want to be on the spot for the news.

The technical committee, representing the American Automobile Association, will have a car. The official starter will have another and there will be one for the checkers. In the latter car the chief of observers will travel.

The general manager, who will also be the pathfinder to go over the route in May, will have the most important car in the event. In addition to all of these many of the truck makers with a large entry in the event will send representatives in their own touring cars. Taken all in all the cavalcade of cars not in the contest will be quite impressive.

Several entries of trucks have already been made by prominent manufacturers and many score have been promised. The entry list will close May 1.



DUPLEX FOUR-WHEEL-DRIVE MOTOR TRUCKS DELIVERED TO CALIFORNIA POWER COMPANY.

The picture shows the two latest Duplex four-wheel-drive trucks delivered to the Southern Sierras Power Co. by H. G. Pendell, Southern California distributor for the Duplex Motor Truck Co., Lansing, Mich., said to be the makers of the first four-wheel-drive car marketed in the country. The power company is using Duplexes, operating with capacity load and 3-ton trailers, daily in maintaining its hundreds of miles of power line, on roads generally regarded as too stiff for anything but tractors. Another sale was to the Estelle Mining Co., Inyo County, Cal., the road to whose mine, high up in the Sierras, Mr. Pendell avers is so steep that he found two pack mules with non-skid chains on their hoofs.

Remarkable Load Borne by Moreland

A massive steam road roller gave up the ghost 50 miles south of Phoenix, Ariz. A number of trucking concerns took a look at it—that was enough for them. After two weeks the B. & A. Trucking Co. tackled it with a 4-ton Moreland and merrily rolled the 17,000-pound incubus to Phoenix. It was twice the rated load of the truck, yet the truck's springs were at all times at least six inches from the housing. The same truck often carries eight tons of sacked grain and immense loads of loose cotton into Phoenix. One load of cotton, weighing 12,290 pounds, was conveyed 50 miles in 4½ hours. At the time of the Thanksgiving Day flood it did heroic work for ten days, carrying supplies. This year-old truck formerly was used in Imperial and is said to have been the first to cut a trail through to Phoenix, carrying over two tons and its water never boiling and needing only three-quarters to fill at the finish.

Craig Made Stewart Motor Corp. Sales Manager

Charles C. Craig, district sales manager, becomes sales manager of the Stewart Motor Corp., March 1, succeeding W. J. Male, who becomes the Buffalo distributor. Burt R. Barr, who has been advertising manager two years, has been promoted to assistant sales manager.

Mr. Male is the second sales manager to resign in the past five years for the purpose of selling Stewarts at retail. How soon Mr. Craig will follow his example remains to be seen. Mr. Craig has been in automotive lines fourteen years, joined Stewart October 30, 1916, and has traveled as district sales manager in nearly every state in the past three years.

Truck Doing Twenty-Four-Hour Day

Motor truck records are going glimmering these days, yet it remained for a big truck sold to the August Ilse Lumber Co., of Scotia, Wash., to establish a record that is hourly growing stronger.

From the time the big 3½-ton truck was delivered to the company its engine has never been stopped. For 18 days and nights it was operated continuously hauling lumber from the mill, eight miles to Scotia, until it was slowed down for oiling and inspection. According to Manager Frank Mohr, the driver jumps off the seat at the end of his shift and his relief driver takes charge. During meal hours the engine was kept running to prevent freezing.

N. A. C. C. to Hold Open Forum March 4

The National Automobile Chamber of Commerce has an open forum scheduled for March 4 at New York headquarters, when motor truck manufacturers will have opportunity to voice their opinions concerning the future of truck shows. Every maker is asked to come forward and present his views.

Use of Double-deck Buses Increasing

The double-deck motor bus, with glass-enclosed upper deck, appeared in Chicago not long ago. In Omaha, late in January, the American Motor Bus Co. of New York installed eight lines of double-deckers, to run to South Omaha, Dundee, Benson and Florence.

New Air-O-Flex Truck Out

G. M. Walker, Jr., president of the Air-O-Flex Automobile Corp., has announced the completion of the latest model Air-O-Flex truck. The company plans to exhibit its trucks at the Chicago motor truck show.

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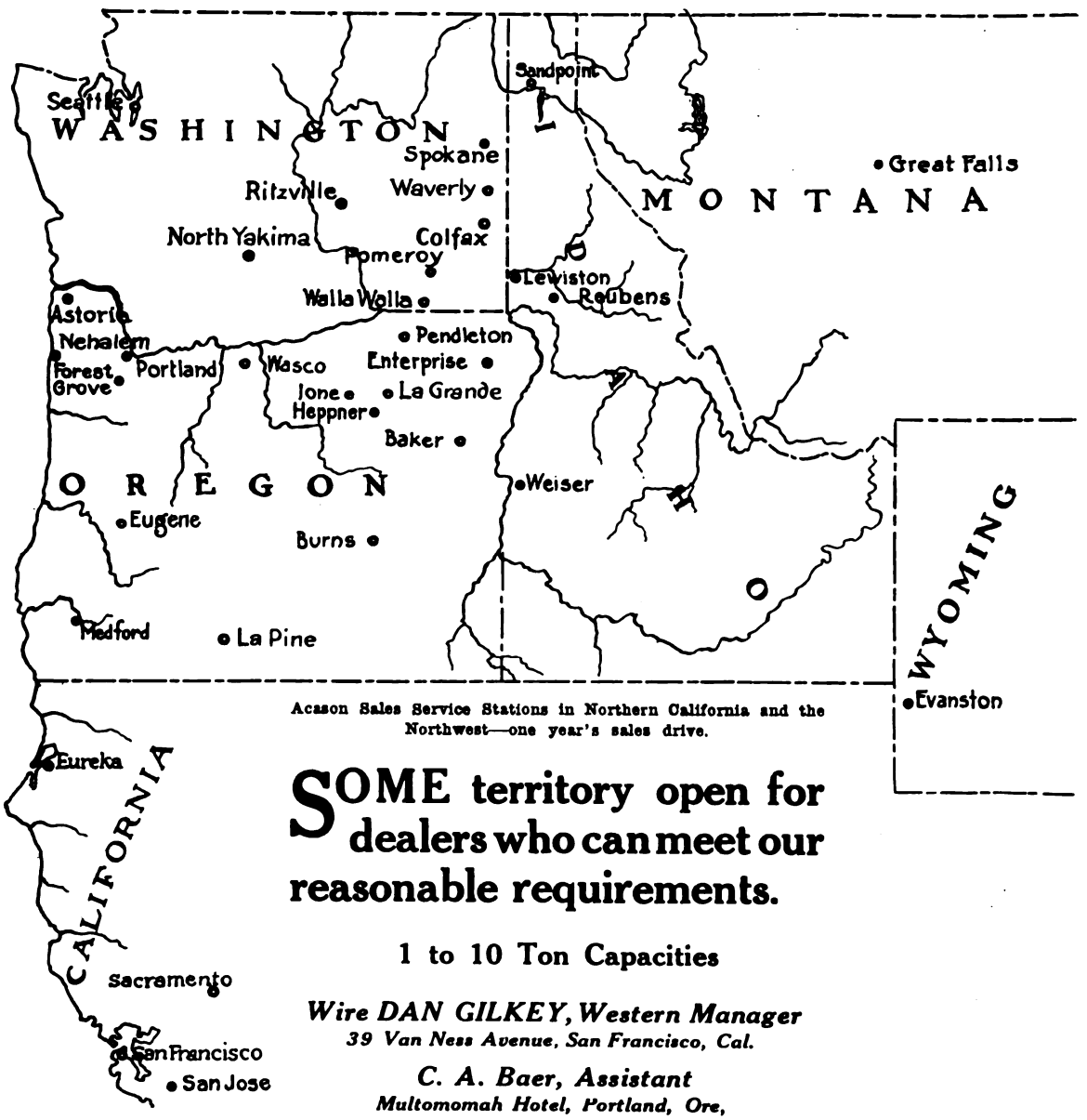
Acason THE OWNER FIRST TRUCKS

ACASON GOING STRONG



Acason Sales Service Stations in Northern California and the Northwest—one year's sales drive.

SOME territory open for dealers who can meet our reasonable requirements.

1 to 10 Ton Capacities

Wire DAN GILKEY, Western Manager
39 Van Ness Avenue, San Francisco, Cal.

C. A. Baer, Assistant
Multomomah Hotel, Portland, Ore,

ACASON MOTOR TRUCK COMPANY

Exclusively Truck Builders

DETROIT, MICHIGAN

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The only reason why Smith Wheels are hubless is, we know that the hub cast integral wheel for motor trucks is not the right type of wheel for the purpose. We have learned this from our vast experience and observation in designing and building all kinds of metal wheels for various uses.

Smith wheels at all times give satisfactory, dependable service. That is why they are guaranteed forever.

Smith wheels are supplied to the truck maker when wanted. The making of trucks is not held up for lack of them. Our deliveries of Smith Wheels eliminate excuses and their service results and appearance also help to make their big sale.

Our desire is always to convince by facts. There is a world to be learned about metal wheels.

SMITH WHEEL
SYRACUSE N.Y. U.S.A.

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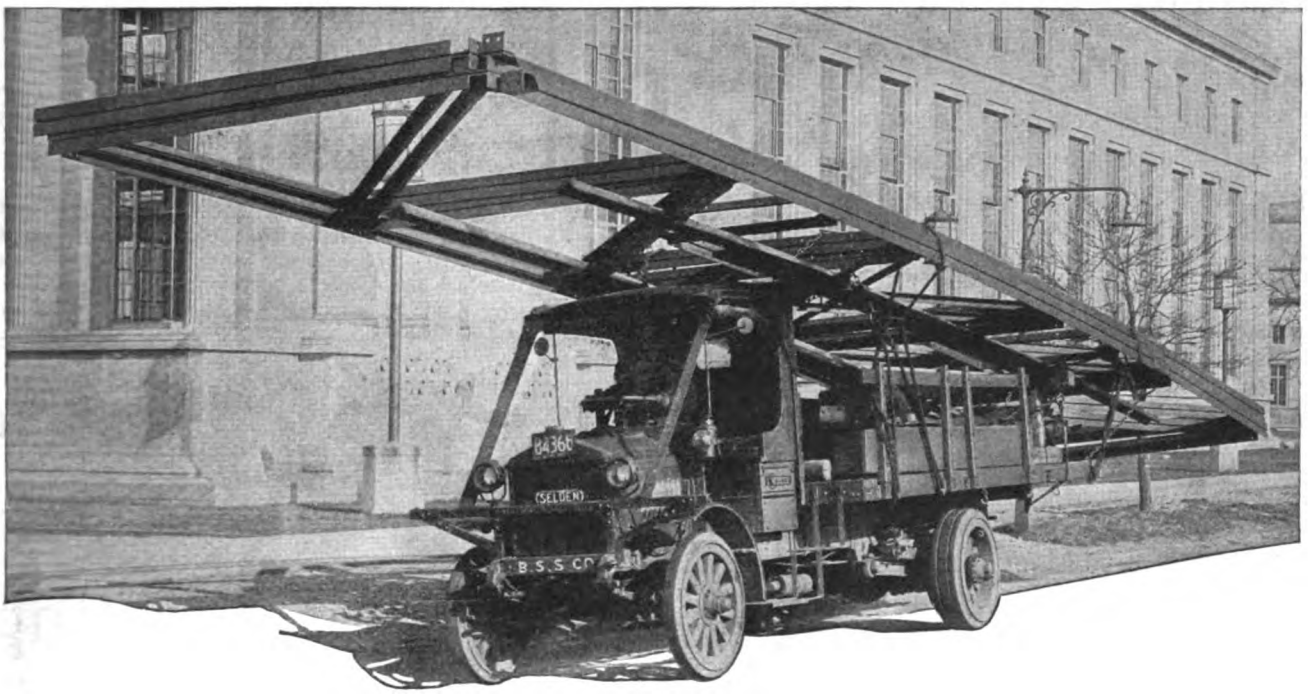

Advantages of the HIGH QUALITY of Selden Trucks

DEALERS who handle Selden Trucks are building worth while reputations for their organizations. And they are making a margin of profit that stays with them—that is not swallowed up by "free service."

Selden "In-built Quality" provides Selden Trucks with the strength to work on indefinitely at low cost—to carry their own loads without constant calls upon the dealers for service that eats up profits on sales.

Selden Dealers know that one Selden Truck in service means more later—that their sales of Selden Trucks are limited only by the user's need for trucks—that repeat orders on Selden Trucks invariably follow initial sales. And back of every Selden Truck stands the reputation of the Selden factory for square dealing with its dealers and their customers.

Ask Selden Dealers about the sales organizations they are building with Selden factory co-operation.

To aggressive, farsighted dealers we still have some territory to offer, though not a great deal. Write us if you would like to become a Selden Dealer.

The Magazine "TRUCK TRANSPORTATION" will be sent free to all interested. Write Dept. MW

SELDEN TRUCK CORPORATION
Rochester, N. Y.

Ship by Truck—SELDEN Truck

1½, 2½, 3½, 5 Ton Worm Drive Models

L. M. FIELD
Pacific Coast Division Sales Manager
1401-19 Western States Life Building
San Francisco, Cal.

Selden Motor Trucks

SELDEN TRUCK CORPORATION, Rochester, N. Y., U. S. A.

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Good Results from 6-Wheeler

Goodyear Tire Development Study Reveals Apparent Traction Advantages of New Motor Truck Idea

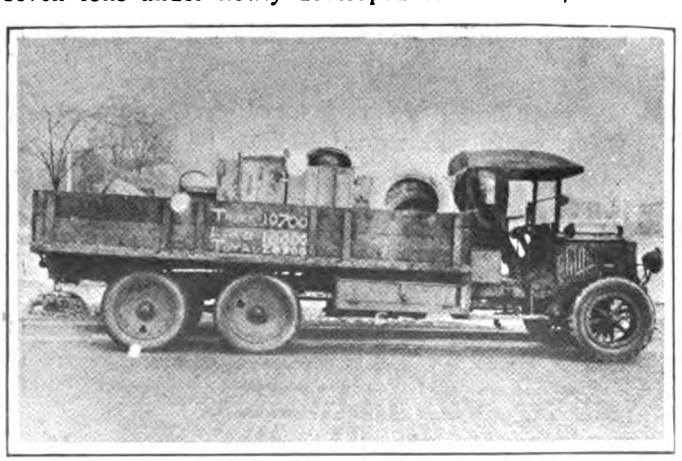
WHAT may prove to be a big step toward solution of the problem of what will be the ultimate tire equipment for heavy payloads on motor trucks is the recent development of a multiple-wheeled truck by engineers of The Goodyear Tire & Rubber Co. Actual demonstrations and close tabulation of results indicate clearly that this "six-wheeler" or tandem axle construction truck with four pneumatic-equipped rear wheels has steadier riding qualities, better traction, is less destructive to roads, decreases tire weight and cost, reduces axle weight, has greater braking capacity and permits greater operating radius.

Development of this type is due to the strong conviction of P. W. Litchfield, Goodyear factory manager, expressed at a recent meeting of the Cleveland and Detroit sections of the Society of Automotive Engineers, that the heavy tonnage truck of the future would be some form of multiple-wheeled vehicle, just as the multiple wheeled freight car succeeded the single truck type for hauling heavier loads. However the "six-wheeler" was not developed in an attempt to produce the ultimate motor truck, but to attempts to solve the problem of pneumatic tire equipment for heavy payloads.

As tire cost and weight are perhaps the greatest factors of interest to truck owners, it will be interesting to note that instead of using the giant 48x12 pneumatic weighing about 398 pounds each on the rear of 5-ton trucks the tandem axle construction embodied in the new 6-wheel truck allows the use of four 40x8 pneumatic tires weighing 119 pounds each, a reduction of 279 pounds in the weight the driver, on tire changes, will have to lift. In addition, the four smaller pneumatics cost one third less than the larger tires.

As the same size of tire is used all around on the truck, the 8-inch tire can also be used as a front wheel spare, still further reducing the tire investment and the number of spares necessary to insure continuous operation.

No more appealing feature can be found for municipalities than that of road saving demonstrated by the pneumatic equipped "six-wheeler." The average road has the maximum base practicable, and begins to disintegrate under excessive pounding. With the truck weight distributed on four rear wheels, road and truck engineers estimate that the average road will withstand a load up to seven tons under newly developed construction, with no more destructive effect than that resulting from the 3½ ton load on two rear solid tires. Road saving has a tremendous popular appeal, so that such a quality in the new type would not only offset unfavorable sentiment against the use of highways by heavy vehicles but would also be a great stimulus to larger appropriations for road improvements.



SIX-WHEELER TRUCK USED IN GOODYEAR TIRE DEVELOPMENT STUDY.

The Goodyear Company used the motor truck shown more than six months, with heavy overloads, more than 2000 miles, to test theories as to economy in various ways, related to tires. The results told in article in this issue also point to quite possible changes in motor truck design.

One striking advantage of the tandem axle construction is a much greater operating radius and steadier riding qualities. The "six-wheeler" seems to cling to the road and rides so steadily and with so little vibration that when a glass filled with liquid to within an inch of the top was placed on the rear of the truck, none of the water was spilled even when the vehicle traveled over rough roads. When passing over an obstruction, the chassis raises but half the distance it would have in the regular type of construction and by reducing shocks and vibration, proves possession of exceptional riding qualities, to the intense satisfaction of the driver. In recent hauling tests from Akron to Cleveland, such cushioning effect was produced by the smaller pneumatics and the multiple wheel construction that with a 5-ton load the truck traveled 48.6 miles at an average speed of 26 miles an hour and registered eight miles an hour average speed in heavy traffic while coming out of Cleveland.

With an area of road contact 27 per cent greater than that of two 12-inch pneumatics, the four 8-inch tires showed much better traction qualities. This was especially noticeably in comparison with dual solids or pneumatics on highly crowned roads and in soft going, where additional traction surface kept the wheels from sinking in deeply and the truck from stalling. Increased ease in handling seemed to be one of the truck's most prominent features.

With the large saving in tire weight by the use of smaller pneumatics as a large factor, the total axle weight is greatly reduced in the new type of truck. Greater braking capacity is also obtained by this construction, four brakes being used instead of two.

The chief objection expressed by engineers to the use of 48x12 tires has been the extremely high center of gravity, the truck load being raised to an extreme height above the ground. This objection is entirely overcome by the use of the four smaller tires.

Silver Lining to Railroad Car Shortage

W. G. Rath, general manager of Napoleon Motors Co., Traverse City, Mich., freely says the shortage of railroad freight cars, and other railway troubles due to winter and deferred replenishment of rolling stock, is giving the motor truck a golden opportunity. He points out, however, that if the situation were not as it is, manufacturers of trucks would be having an uncomfortable time, not for lack of demand but a surplus of it. The manifest advantages of the new transportation have become so obvious that were railroads able to handle more traffic, much more production, hence far greater use of trucks to feed railroads, would result.

Truck Scores in Short Sugar Season

The beet sugar making season in Colorado lasts only a few weeks. In one section, where a team, with 5000 pound load, averaged 40 minutes for a two mile haul from field to factory, a 2½ ton Republic motor truck averaged 12 minutes, with 6000 pound load, and made seven miles per gallon of gas. This so reduced the cost of handling, and aside from that the speed under heavy load was so striking, that Republic prospects are up, and horse prospects down, in that particular section.

Supervises West for FWD Factory

W. C. Turner, prominent figure in Western automobile circles, has been made district sales supervisor of the Four Wheel Drive Auto Co., of Clintonville, Wis., makers of FWD trucks. He will be located at Omaha, covering Nebraska and Iowa.

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Quality Conquers

THE growing endorsement of Diamond T Trucks by Western business isn't any puzzle needing a trick explanation. The truth about its ability is simply spreading from users to observers, and no other advertising can compare with that for results! Transportation costs are the best test of Diamond T; and because the truck that is longest in use is cheapest to own, "The Nation's Freight Car" is traveling to greater sales and reaping a nation-wide good-will.

These Distributors are behind Western Sales and Service:

Diamond T Truck Company of Washington
Distributors for the State of Washington
1122 East Madison St., Seattle, Wash.

Hirsch Motor Company
Distributors for Upper California
1131 Van Ness Ave., San Francisco, Cal.

Diamond T Truck Sales Agency of Oregon, Inc.
Distributors for the State of Oregon
89-91 North Ninth St., Portland, Ore.

Diamond T Pacific Truck Co.
Distributors for Lower California
1220 S. Grand Avenue, Los Angeles, Cal.

DIAMOND T MOTOR CAR COMPANY :: 4525 West 26th Street, Chicago, Ill.

COMPLETE LINE 1½ TO 5 TONS

"The Nation's Freight Car"

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Correctly refined

Zerolene is correctly refined from selected California crude oil. It keeps its lubricating body at cylinder heat, holds compression, gives perfect protection to the moving parts and deposits least carbon. It is the product of the combined resources, experience and equipment of the Standard Oil Company.

By exhaustive study and actual tests the Standard Oil Company Board of Lubrication Engineers has determined the correct consistency of Zerolene for your make of automobile. Their recommendations are available for you in the Zerolene Correct Lubrication Charts. There is a separate chart for each make of car.

Get a Correct Lubrication Chart for your car. At your dealer's or our nearest station.

STANDARD OIL COMPANY
(California)

A grade for each type of engine

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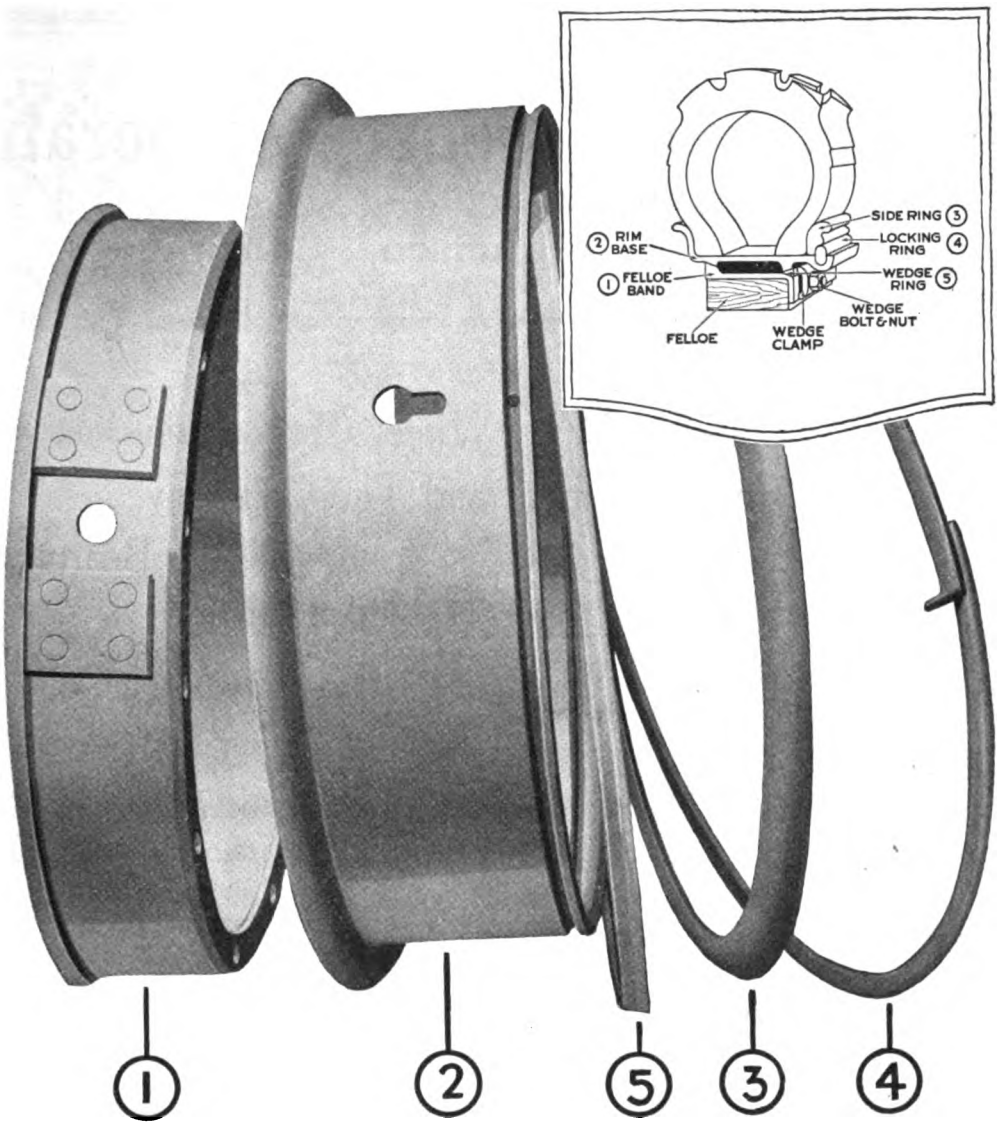

Copyright 1920, by The Goodyear Tire & Rubber Co.

Rim Advantages for Truck Pneumatics

YEARS ago when Goodyear pioneered the straight side type of pneumatic tire, Goodyear also pioneered the type of rim which has made the use of this tire possible and practical.

Due to the fundamental simplicity and strength of the original Goodyear straight side rim, its design has served as the basis of practically all straight side rim manufacture.

The ease of operation of this Goodyear Rim, as now built for both passenger cars and motor trucks, is increased very effectively by a locking feature distinct among rims. Its locking ring has an oval contour which facilitates engagement and release and thus makes for utmost stability and safety when locked and utmost ease of unlocking.

This at least partially explains why truck manufacturers have given such substantial recognition to Goodyear Truck Rims—made in all sizes and in both the demountable and detachable types.

Further information about these easily operated rims can be obtained by writing to The Goodyear Tire & Rubber Company, at Akron, Ohio.

GOODYEAR

TRUCK RIMS

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Automotive Products Corporation

989-999 Geary Street
San Francisco, Calif.

REPRESENTING

National Wire Wheel Corporation
Empire Rubber and Tire Company
Geo. D. Bailey & Co. Shafer Roller Bearings
"Float-a-Ford" Shock Absorber
Staff Bros. Co. Wrenches Brookins Mfg. Co.

Will exhibit at Pacific Coast Equipment Exposition at Municipal Auditorium, San Francisco, March 30th to April 4th, Space Number 131

"Jam" Johnson Says Hawaii Booming

J. A. M. Johnson, general sales manager of the Royal Hawaiian Sales Co., and who is known as "Jam" Johnson by his friends on the Coast and the length and breadth of the carefree isles, has been on the mainland hustling up shipments of Moreland trucks and other things his concern represents. He says business in Hawaii is fine and that he is selling all the trucks he can get, for hauling rock, sugar cane, fertilizer and so on, on the great plantations. Building is booming. Between $5,000,000 and $8,000,000 will be spent, exclusive of Government contracts. More than $2,000,000 will be spent on new roads, mostly cement concrete. The Government is spending many millions on new buildings and fortifications.

Last year's sugar exports amounted to $75,511,738, an increase of $1,615,667 over 1918. Pineapple exports were $12,105,668, coffee $925,014, rice $168,198, and other products about $2,000,000. An all-round increase of at least 15 per cent is expected this year.

Mr. Johnson, a great believer in advertising, tells how he made two sales. He gave a lift to an old Chinaman and gave him his card. Six months later the old fellow, with another, walked into the salesroom and asked: "You sabe me?" "No sabe." "I too much sabe you. One day you hapai (carry). This card belong you. My friend speak me yesterday. He likee buy tluck. I tell him more better he come see you." The friend examined, then paid a $2,000 deposit; and before Mr. Johnson left Hawaii the man bought another.

Erecting Building No. 2 for Oneida

At Green Bay, Wis., construction of building No. 2 has begun at the plant of the Oneida Motor Truck Co. This will give the company approximately 200,000 square feet, with extension of the present building. The Oneida line now includes five gasoline models, an electric truck and an industrial tractor.

Wichita Motors Stock is Increased

The capital stock of Wichita Motors Co., Wichita Falls, Tex., has been increased from $800,000 to $1,800,000. Stockholders took all. None was offered to the public. The company was organized in 1910 with capital stock $160,000, half paid in, and the first Wichita motor truck was made and sold in the spring of 1911. In 1916 the capital was increased to $400,000, and in 1918 to $800,000. The company has always been under the same management.

At first, the Wichita had to contend the prejudice against "home made" motor trucks. The company not only accepted this queer human humor philosophically but used it to advantage—by going after export trade. Today Wichita trucks are in 75 foreign countries. Its officers believe this is the widest distribution of any motor truck on earth. Domestic demand has come abundantly, and production had to be increased greatly last fall. The plant built by the Midland Motor Car & Truck Co., Oklahoma City, was acquired and now is Wichita plant No. 2.

Wichita trucks are made in 1, 1½, 2, 2½, 3½ and 6 ton standard sizes. There is also a specially designed truck for oil field road conditions; a road builder; and a farm tractor.

Tells of Famous $22,000,000 Sale

The February issue of "Horse Sense," monthly organ of the Traffic Motor Co., besides containing some very interesting and instructive articles by various department managers, contains an illustration showing H. H. Hawks, general sales manager of the company, standing in front of the blackboard upon which the famous $22,000,000 sale in 22 minutes (at St. Louis show, December 11, 1919) was chalked. "Horse Sense" also contains a word picture of the Traffic Company, both past and future, and many articles showing and telling the performance of the Traffic under various conditions. This company's minimum wage is $5 a day.

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Speaking of CONCRETE ROADS STREETS and ALLEYS

53,000,000 Square Yards Were Placed Under Contract During 1919—

More than twice the total of any previous year, and equivalent to over 5,000 miles of 18-foot concrete pavement.

Every state—your state—contributed to this wonderful record. Watch 1920!

States in Which Contracts for More than 30 Miles of Concrete Road Were Let During 1919

	Miles		Miles
Arkansas	87	New Jersey	87
California	210	New York	329
Delaware	55	Ohio	239
Georgia	90	Oklahoma	69
Illinois	570	Oregon	42
Indiana	280	Pennsylvania	491
Kansas	69	Texas	59
Maryland	95	Utah	84
Massachusetts	31	Virginia	91
Michigan	169	Washington	161
Minnesota	79	West Virginia	87
Mississippi	38	Wisconsin	132

North, east, south and west—
CONCRETE is the choice.

PORTLAND CEMENT ASSOCIATION

Atlanta, Chicago, Dallas, Denver, Des Moines, Detroit, Helena, Indianapolis, Kansas City, Los Angeles, Milwaukee, Minneapolis, New York, Parkersburg, Pittsburgh, Salt Lake City, Seattle, St. Louis, Washington

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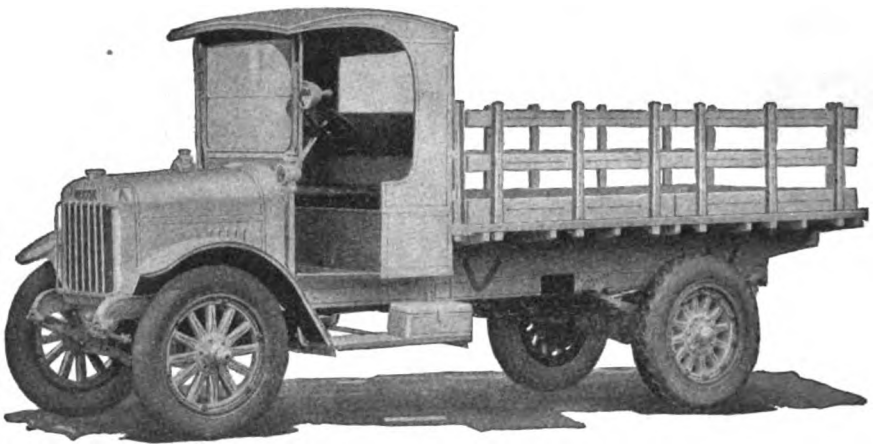
WOLVERINE

Some Good Dealers Territory is still open.



If interested, wire or write at once, as all territory will be covered very soon.

The Truck of Good Service

An up-to-date truck in every respect which will give 100% service to the owner. Fully equipped with electric starting and lighting system including a searchlight.

MANUFACTURED BY

AMERICAN COMMERCIAL CAR COMPANY

DETROIT, MICH.

HEADIN' WEST!

Electric Starting and Lighting

1½ 2½ 3½ Tons

The "KALAMAZOO"

"The Hand-Made Truck"

Unsurpassed opportunities for West Coast Distribution. Write—

Kalamazoo Motors Corporation, Motor Truck Division, **Kalamazoo, Michigan**

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Whence comes this extra power?

First—From the proper conception of the daily duty demanded of a truck or tractor engine.

Second—From a design thoughtful of all contingencies of the days work.

Third—Through the workmanlike execution of this thoughtful design in a highly specialized engine plant.

————The absence of vibration, the insurance against whipping and dis-alignment of the crankshaft, the ample bearing surfaces and positive lubrication, all combine to transmit *all* the power generated into actual driving force.

The Hercules Motor Mfg. Company

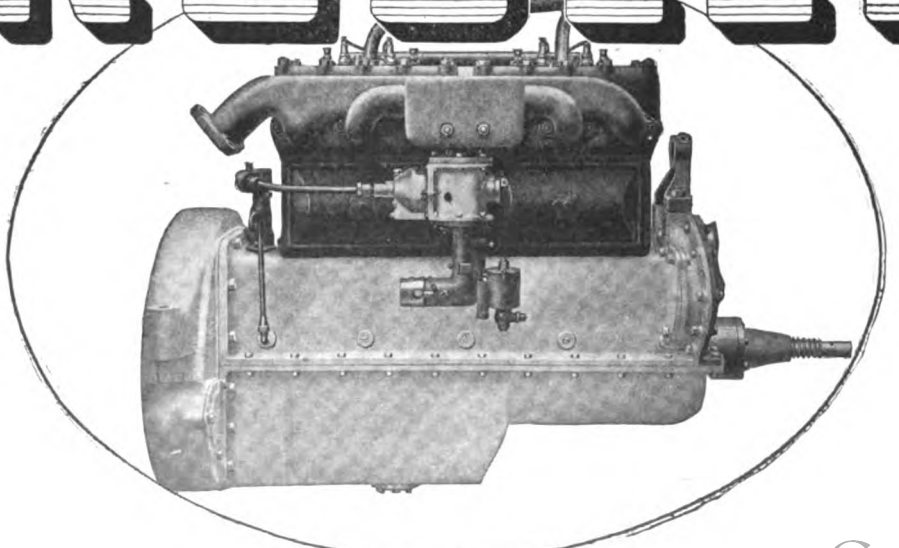
CANTON OHIO

Sales Offices:

Detroit Chicago Buffalo San Francisco London, England

HERCULES

For Trucks and Tractors



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Tractometer Shows H. P.

Determining Factors in Ascertaining the Pounds of Pull Needed, and Device Used, are Described

A TRACTOR'S horsepower is determined by two factors when hitched to a load—the number of pounds of pull, and its speed. To develop 1 horsepower at a speed of 1 mile per hour it must pull 375 pounds on the drawbar. At five miles per hour a pull of 75 pounds will do the same. Hence one cannot measure actual horsepower at the drawbar without a device by which the actual pull can be ascertained.

The reason why various pulls develop the same horsepower at different speeds is this: A single horsepower is a quantity of energy equal to 33,000 foot pounds per minute. The product of the pounds' pull on the drawbar by the number of feet traveled per minute must be constant and must equal 33,000 foot pounds per minute. If the speed is increased the pull must be lighter to produce the same horsepower.

At 1 mile per hour a tractor travels 88 feet per minute. For every quarter-mile added to the speed per hour, add 22 feet per minute to 88. Many tractors move at 2½ miles per hour, or 198 feet per minute. To determine the pounds of pull needed for such tractors to develop 1 horsepower, divide 33,000 by 198.

The Tractometer, made by a Los Angeles firm, is provided with convenient tables for calculating horsepower. Instructions are given for roughly measuring a tractor's speed. The investigator walks beside the moving tractor, stepping 3 feet at a time as nearly as possible and counting the number of steps per minute. This is multiplied by 3 to get the speed in feet per minute. By multiplying by 60 and dividing by 5,280, the speed per hour is learned. Or, the miles per hour may be seen by the table, and the same table gives the pounds' pull for 1 horsepower at the given speed. This can be calculated by dividing 33,000 by the number of feet traveled per minute, to get the pounds' pull for 1 horsepower.

Forty-four steps per minute indicate a speed of 1½ miles per hour; 51 steps per minute, 1¾ miles; 58 steps, 2 miles; 66 steps, 2¼ miles; 73 steps, 2½ miles; 80 steps, 2¾ miles; 88 steps, 3 miles.

To ascertain the pull necessary at certain speeds, to develop 1 horsepower, a table provides for first determining the speed, and then dividing the pull on the drawbar by the pull necessary for 1 horsepower at the speed given. The table shows:

Miles per hour	Feet per minute	Pull lbs. per 1 h.p.	Miles per hour	Feet per minute	Pull lbs. per 1 h.p.
1	88	375	3	264	125
1¼	110	300	3¼	286	115
1½	132	250	3½	308	107
1¾	154	214	3¾	330	100
2	176	187½	4	352	93
2¼	198	166	4¼	374	88
2 1/3	205½	161	4½	396	83
2½	220	150	4¾	418	79
2¾	242	136	5	440	75

Harold C. Kitto, of Dollar Bay, Mich., has patented a calking idea. Calks or teeth or made in groups of four and are attached to the inner side of the tractor wheel.

Tractors Tend to Enlarge Operations

With the tractor available, farms need not be decreased in size, as many once believed necessary. The fact is that many farms should be enlarged to fit the capacity of the tractor—just as occurred when the grain binder was introduced. Short tillage rows are admirable for horses, giving them a chance to rest—but the tractor likes long rows.

Some factories are making tractors to fit small farms and, it may be said, farmers too small to see larger scope. It has been suggested that for those chronically addicted to the small-farm idea, community tractors be operated co-operatively, and that fences be eliminated to make this effective.

If Something's Wrong, Blame Ignition

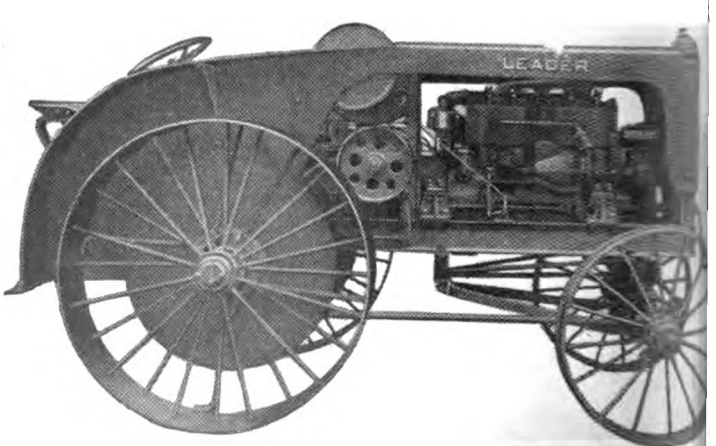
Fallacies, like all other phases of history, repeat themselves. The early fallacy that all motor troubles are the fault of ignition is being repeated in tractor practice, even by men who ought to know better. That it is a fallacy is shown by broad investigation. No gas in the tank, is the real trouble in a surprising number of cases. Failure to use clean water in the radiator, or to keep that important factor clean, is a cause of blue atmosphere—not the kind made by fuel or oil, but by flabbergasted operators.

Leader Tractor Now Represented on Coast

With the organization of the Pacific Leader Tractor Corporation at San Francisco, to be permanently located at 568 Howard St., San Francisco, the Leader tractor, manufactured by the Dayton Dowd Co. at Quincy, Ill., has definitely entered the Pacific Coast territory. The officers of the new corporation are M. Sugarman, president; K. Gluck, vice-president and treasurer; E. M. Sugarman, secretary and general manager. They will be the Leader distributors for California, Arizona, Nevada and the Pacific Islands.

Mr. Lewis Sugarman will be associated in the distributing agency. In connection with a full stock of Leader tractors and repair parts the new corporation will carry an implement line, and show-rooms are being fitted up at their headquarters.

A great campaign is now being conducted by the company under the slogan, "The Tractor of the Future is Here," and a very interesting announcement of a new model tractor will soon be made by the Dayton-Dowd Co.



HERE IS THE NEW LEADER TRACTOR.

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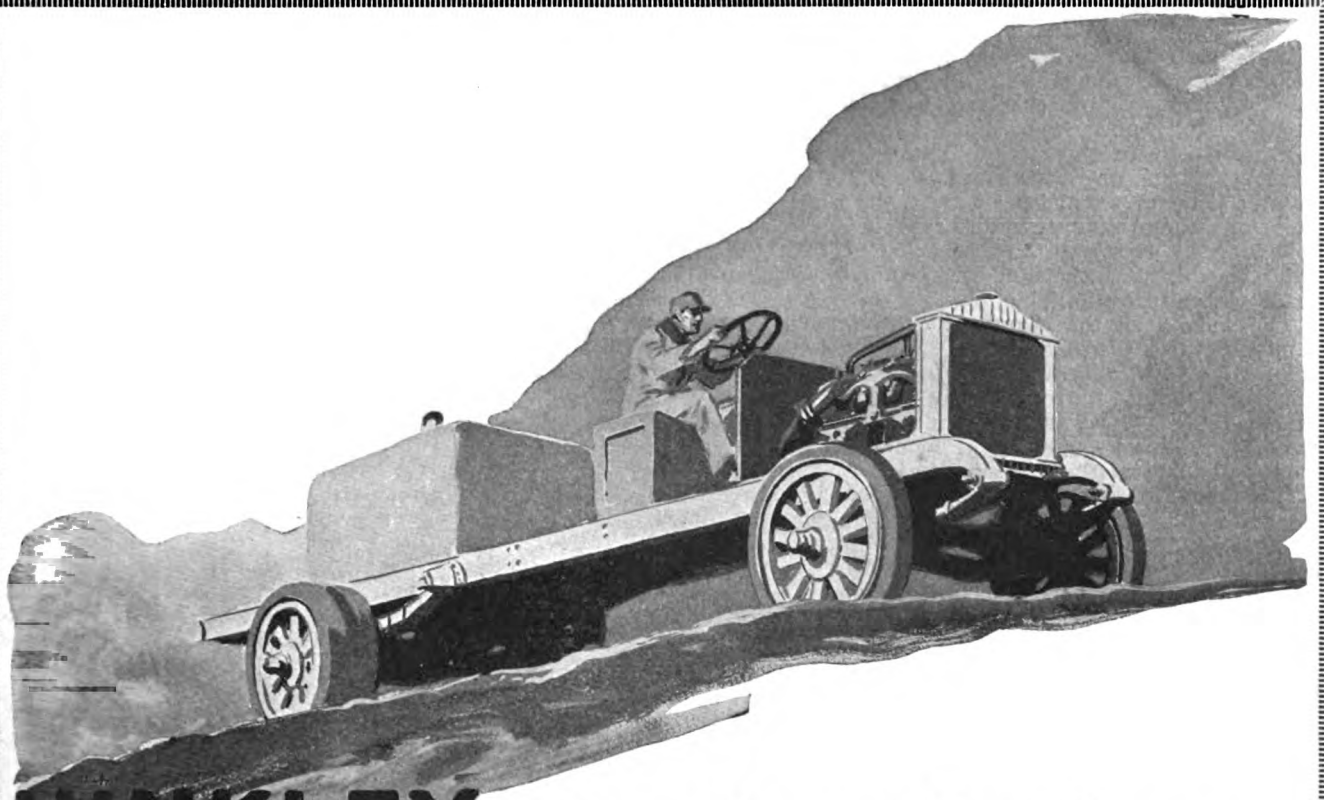

HINKLEY
HEAVY DUTY AUTOMOTIVE
ENGINES

Proving a Product

Progressive Truck Manufacturers always welcome an improvement in Mechanical Transport like the Hinkley Heavy Duty Automotive Engine.

But first they must satisfy themselves that the new development is really an Improvement—that it will build Permanence for them and Satisfaction for you.

Those Truck Manufacturers whom we serve placed no contracts with us until they had Mercilessly Proved Hinkley Engines.

You may be sure that their tests were far more severe than anything you will ever ask of your Hinkley-Engined truck. And you will take pride in the fact that you may never have to ask your Hinkley Engine for its Limit Effort.

Are Standard Equipment in the Latest Types of Such Trucks as—

1½ Tons

Paige
Columbia
Duplex
Patriot
Mapleleaf (Canadian)

1¾ Tons

Oneida

2½ Tons

Gramm-Bernstein
U. S.
Columbia
Oneida
Patriot
Mapleleaf (Canadian)

3½ Tons

Oneida
U. S.
Gramm-Bernstein
Patriot
Mapleleaf (Canadian)

5 Tons

Oneida
Mapleleaf (Canadian)

HINKLEY MOTORS CORPORATION
Detroit

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Tractor Development on Hawaiian Islands

American farm tractors appeared on the Hawaiian Islands five years ago. Ninety per cent of the cultivated area is devoted to sugar cane and much of the remainder to pineapples. Before the tractor tht mould-board plow was an improvement upon the primitive plow teams. A picture of one of these teams shows them to be native women, wearing no waists at all. Men also served. With pointed poles they stood in line. At the word, they thrust these into the ground, then all pried the soil up in unison, following by trying to turn over and break the clods. Thus they formed the seed bed. Only the cheap labor made agriculture profitable.

The soil on all the islands is volcanic, red, with little sand or gravel. In using plows, they had to be cleaned frequently. Extra heavy plows were needed on account of many boulders. Strong motive power was obtained by the so-called Fowler system, an English idea, whereby mould-board plows, cutting 24 inches deep, were drawn back and forth in the fields by means of steel cables attached to stationary engines. For first treatment this system is still used, due to the rugged soil, but tractors will be developed to do this. At present tractors do remould boarding, harrowing, cultivating, etc.

An interesting implement in the cane fields is the double mould-board plow, which prepares the trenches in which cane seed is planted. The plow is four feet wide at the top of its two flanges, and cuts a furrow from 18 to 20 inches deep.

The pineapple industry is mostly on the island of Oahu, where Libby, McNeill & Libby, the Hawaiian Preserving Co. and the Hawaiian Pineapple Co. have very large plantations. Other smaller growers are scattered over the island. Farm tractors do most of the team work, as the soil is more tractable than that of Hawaii island, and free from boulders and steep hills. On the island of Maui tractors are also used with good results.

Pictures of the pineapple plantations, stretching as far as the eye can see, are impressive. So are pictures of huge tractors pulling multiple plows in cane fields, and hauling long trailer loads of cane.

Overloading and Stopping, Not Economy

A queer streak in the human mind makes a man, even an engineer, build drainage facilities too small, often by one-half; and makes him overload a vehicle. Too many tractor owners do this. Three plows pulled by a two-plow tractor cover little more ground, as a rule, than would two plows. The reason—less speed. Sometimes the overloaded machine will stop on grades otherwise easily negotiated. Also, mechanical troubles increase. Overloading decreases fuel consumption per acre, but it will be found the depth plowed is less, the repair bill larger, more time lost. For emergencies overloading may be excusable, but if heavy work is regular, use a larger outfit.

Evidence That Missouri Has Been Shown

Missouri likes to be shown, if tradition says true. It must have been shown the merits of the farm tractor, judging by the way purchases jumped in 1919. A count before June 1 indicated 6,032 tractors in the state. Long before the year closed 2,700 more had been sold, putting some in nearly every county—including counties in the Ozarks where, according to the Kansas City Times, farmers have to wear telephone linemen's spikes while tending their crops.

Wrigley's Tractors for Catalina Tourists

Wrigley the chewing gum man, is making a winter resort of Catalina Island, about 20 miles off the coast near Los Angeles. The island, several miles wide and about 30 miles long, is still practically an undiscovered country in its hilly interior, but roads are being built. For use on steep near-roads Mr. Wrigley has put in use "gasoline goats"—three fast tractors with two 20-passenger trailers for each.

How to Prevent Overworking Tractor

Straining a tractor's power overwears all parts unprofitably; shortens its life. Accommodate its effort to its rated horsepower, average plowing speed and average soil resistance, and save money. At two miles per hour the average horse pulls 200 pounds and exerts a bit more than 1 (mechanical) horsepower. Average soil resistance to the plow is about five pounds per square inch of the cross section of the cut. The cross section is 6x14, or 84 square inches, if a 14-inch plow cuts 6 inches deep. Thus, 5 pounds pressure per square inch means the resistance is 420 pounds per plow. Resistance varies—in sandy soil, 2 to 3 pounds per square inch; in barley stubble, 4 pounds; in grass sod, 6 pounds; in alfalfa sod, 7 pounds; in clay, 8 pounds; in heavy adobe, 18 to 20 pounds. Mixing horse sense with the horsepower exertion is a good general rule to go by.

Don't Let Connecting Rods Run Loose

The principle involved in things running around loose is a bad one among general principles. Specifically, it is bad as to connecting rods. Letting them run loose portends expensive trouble. Ordinarily, a tapping noise when the motor is in action warns of this. Take off the rod caps; remove shims, or drawfile as needed, to make them sufficiently tight. Generally, if caps do not show movement across the shaft they are properly fitted. Allow some movement along the shaft. When the warning taps are not regarded, if the tractor is run some time with loose rods the cap becomes loose, and rod goes through the crank case, the piston follows it, and there is danger of breaking or badly springing the crank shaft. This means repairs, delay, cost. So watch for the loose rod knock.

Samson Adds to Space

The Samson Tractor Co., of Janesville, Wis., a subsidiary company of the General Motors group, has started the erection of the second one of the three units that are to finally make up the Janesville plant. The second building is an exact duplicate of the first, finished in March. Dimensions are 200x500 feet. When the new unit is completed Samson output will be put on the endless chain method. A third unit will be built in August or September. A total of $4,500,000 is to be spent on the Janesville plant.

Dealer Demonstrations for 1920

George Collins, secretary of the California Tractor and Implement Association, announces tractor demonstrations for dealers will be held during 1920 in counties north of the Tehachapi range. The association has divided its activities into eight districts, comprising an improved area of 9,322,000 acres. Part of San Bernardino County is inclued, as district No. 8. Other counties are Mono, Inyo, Madera, Fresno, Kings, Tulare, Kern and Mariposa.

Superiority to Mules Shown in Low Land

Louisiana may be slow in some respects, due to the climate. Northerners who go down there to manage plantations have been known to lose pep in due time. Tractors do not get hookworm, however, and it is of record that after demonstrating, in Jefferson Davis parish, that they could work better, and more days, where excessive rain made use of mules impracticable a good part of each week, 200 were sold in one month.

American Tractors Preferred in Sweden

Of American agricultural machinery, the tractors made in this country seem to have the call in Sweden, according to a report to the Department of Commerce. Sweden's four factories, which also produce motor plows, grain threshers and portable steam engines, are unable to cope with the demand, their estimated annual output being only 400 tractors.

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GILL
The Perfect One Piece Piston Ring

"Here Is the Piston Ring I Recommend"

The garage man says this with an accent of pride when he holds out a Gill Piston Ring towards the customer. He knows the Gill Ring only has to be shown to convince that it is the "perfect one piece piston ring." There is no argument necessary, one look at the double step interlocking joint and anyone with even the slightest mechanical knowledge can see that it is head and shoulders above any other ring on the market.

Just think for a moment. The Gill Piston Ring allows an expansion of from $1/8$" to $3/16$" without any loss of compression and at the same time has all the advantages of a one piece ring. Made from single piece castings of the finest gray iron and machined to absolute accuracy. The easiest ring on the market to install, the easiest ring on the market to sell.

Send for the new Gill Piston Ring Size Directory, complete, convenient, and full of just the information you need. It is free to the trade.

Dealers—Ask your jobbers about them
Jobbers—Write to us for information

The Gill Manufacturing Company
8301 South Chicago Ave., Chicago, Illinois

Sole Foreign Agents:
AUTOMOTIVE PRODUCTS CORPORATION
Woolworth Building, New York, N. Y.

Pacific Coast Branches:

Gill Piston Ring & Sales Co.
1522 S. Grand Ave.,
Los Angeles, Cal.

Gill Piston Ring Co.
803 Van Ness Ave.,
San Francisco, Cal.

Gill Piston Ring Co.
723 E. Pike St., Seattle, Wash.

Gill Piston Ring Co.
409 Burnside St. West, Portland, Ore.

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Trade Briefs & Factory Gossip

Trade News Via Detroit.

Detroit's nineteenth annual automobile show opened February 14 with 73 makes of passenger cars, 46 makes of motor trucks and 68 accessory concerns represented. The show covered 150,000 square feet of floor space—twice as much as in previous seasons. In number and extent of exhibits under one roof it exceeded either the New York or Chicago national show. The floral decorations on five floors depicted a rural garden scene, a Florentine scene, an old English rose garden and an apple orchard in blossom, respectively. There were four concert orchestras. Seven sections of one newspaper, the Detroit Free Press, were devoted to the show. The Dort Motor Car Co. used one complete section.

Artemas Ward, of New York, majority stockholder of the King Motor Car Co., has secured what is regarded as one of the best manufacturing sites in Detroit for the company's new plant. Plans for a factory are being considered.

It is said the Duesenberg Automobile & Motor Corp., to have a capital of $15,000,000, will locate in Cleveland and manufacture motors and parts in addition to automobiles.

Organization of the Jacquet Motors Corp. of America, headed by Alfred J. Jackson, of Battle Creek, is reported. Mr. Jackson designed the car which is to be manufactured. The capitalization is $100,000. A plant has been bought in Belding, Mich. The output for 1920 is estimated at 250 cars, all contracted for. L. W. Wilson, superintendent of the Timken-Detroit Axle Co., will have charge of the factory. Experimental work and production will be in charge of Charles Marquet, now general manager of the American Motor Co., Battle Creek, Mich. He formerly was with the Franklin in Syracuse. President Jackson was with the Pierce-Arrow a number of years, and with the Republic Motor Truck Co.

Paige-Detroit Motor Car Co. earnings before taxes for 1919 were $2,002,000. Dividends on common stock were $430,000, and on preferred $72,000. The surplus was $1,300,000, the sum of $413,000 having been taken out for taxes, and considerable struck off for depreciation. Total current assets at the time of the annual meeting were $6,721,226.36; current and accrued liabilities, $1,142,018.83. Anticipated 1920 production is 30,000 passenger cars and 2,100 motor trucks. The new building cost $600,000; equipment, $250,000. Steps are being taken by the company to make its own parts.

The drive-away plan of getting passenger cars and trucks from Michigan factories is being used as far as road conditions will permit, owing to railway car shortage. One trade man in the East keeps 36 drivers in Detroit. They drive cars to Cleveland, where 36 others relieve them and drive to the East, both crews then returning to Detroit and Cleveland, respectively. They do some extraordinary feats in winter weather. There have been times when they had to desert their cars on the road temporarily.

CHARLES E. STUART,

appointed assistant sales manager of the Selden Truck Corp., Rochester, N. Y. He has had years of experience in the motor truck business as salesman, dealer and field manager.

Detroit ought to be, and is, motor wise. Hence there is significance in the fact that Detroit retail sales of Dort cars last year were 927, the third largest in the city. The two others are quantity production leaders. Flint, where Dorts are made, is 70 miles from Detroit, and produces more automobiles in proportion to population than any other city. The Dort factory is the outgrowth of an established business antedating the automobile and is a logical evolution in the hands of men who read the future and planned accordingly. The success of their car in Detroit indicates their basic ideas are correct.

The Morgan & Wright factory of the United States Rubber Co., in Detroit, is to have its output trebled, additional property having been obtained.

* * *

Lauraine Magneto Co. Election.

At the recent stockholders' meeting of the Lauraine Magneto Co., of Long Island City, N. Y., M. Feldine, engineer, New York, was elected president; M. G. Leslie, national senator, Pittsburg, first vice-president; Leo Potter, New York, second vice-president; A. C. Leslie, Trenton, N. J., secretary and treasurer. These form the directorate with G. J. Atwell, contractor, Long Island City; E. H. Swindell, manufacturer, Pittsburg; R. W. Turner, contractor, New York.

The first issue of treasury stock, from the authorized 50,000 shares at $25 par, was largely oversubscribed, providing ample working capital. The company owns the property, valued at $100,000, without incumbrance. There are many magnetos still to be shipped abroad, the principal business having been export, but domestic trade is to be added. The company also makes a new automatic impulse starter, and the new Lauraine-Feldine magneto-generator, with impulse starter.

* * *

Hersey to Vulcan Spring.

Dwight T. Hersey has taken up his work as director of sales of the Jenkins Vulcan Spring Co., Richmond, Ind. He was for many years with Splitdorf Electrical Co., both as branch territory representative and more recently in the factory sales department at Newark. He brings to his new duties a rare experience of executive sales and general trade distribution.

* * *

Patten Is Burgess Sales Head.

The Walter S. Burgess Co., St. Joseph, Mich., manufacturing Burgess Rebound shock absorbers, has completed its own sales organization, with Proctor H. Patten, formerly with the Zinke Co., Chicago, in charge of sales.

* * *

Anderson Co. Changes Name.

The Anderson Electric Specialty Co., & Equipment Co. There is no change in personnel. The purpose of the change is to eliminate "specialty," as the Anderson line, including "Autoreelite"—the spot light on the reel—and "Reelite," the extension garage portable lamp, is made up of staple products.

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Rie Nie

Trade Mark Reg.

A Real Patch to Sell

Holds fast to the tire, pleases the car owners and is a sure repeater for sales. Rie Nie Patch is a permanent repair that does not have to be touched again. Comes in a strip, cuts to fit everything from a pinhole to a blow-out. Two kinds, all rubber or fabric backed. Two sizes, 50c and $1.00.

AUTOMOTIVE PRODUCTS

The Fan Belt That Will Cause a Sensation

Here is a belt that you can sell with perfect confidence because it wears evenly. The Rie Nie wrapper keeps the belt as one solid unit during its *entire* life. This insures absolutely more fan belt service and longer life. Built on an entirely new design, of light fabric, *cut on the bias*, with a wrapper around the filler plies, all vulcanized in one. The Rie Nie Jacket prevents ply separation, and there is but one raw edge and that on the outside away from pulleys and wear. The Rie Nie Belt will not stretch; is water, heat and oil proof. Settles the fan belt question for every motorist. Send for a sample belt and complete catalog of Rie Nie Products.

Rie Nie Products Manufactured Only by

DURKEE-ATWOOD CO., Minneapolis and Cleveland, U. S. A.

In Canada—Canadian Durkee-Atwood Co., Ltd., Toronto

Please Mention "Motor West" When Writing to the Advertiser

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The Goodyear Wage Increase.

About 26,000 employes are affected by the Goodyear minimum wage of $6 for male and $4 for female factory workers who are American citizens over 18 years old, able to speak English, and in the employ six months consecutively. The hourly rates also are increased by about 10 per cent, and the piecework rates 5 to 12 per cent.

The announcement was made at a recent meeting of the Industrial Assembly, the body elected by employes to decide matters of factory administration. Factory Manager Paul W. Litchfield said the idea had been under consideration some time.

* * *

Car Makers Buy Glass Plants.

In order to insure an adequate supply of plate glass for the building of bodies, windshields, etc., not a few of the larger Detroit automobile makers have been compelled to invest capital in glass-making plants. The Fisher Body Corporation, according to common rumor, is about to take over three glass plants in Saginaw, Mich., Ottawa, Ill., and Blairsville, Pa., at a total outlay of $7,000,000. Henry Ford is also about to take over an entire glass plant in Toledo, it is rumored. Other big companies are preparing to invest some of their surplus in similar establishments.

* * *

Militor May Become Sinclair.

The name of the Militor Motors Corp., of New York, may be changed to Sinclair Motors Corp., if a proposal advanced by the company's directors is received with favor by Militor stockholders. The new name of the company will reflect the energies of Neil R. Sinclair, who has been its president and active spirit since its re-organization two years ago.

* * *

Napoleon Motors Co. Election.

At the annual meeting of the stockholders of the Napoleon Motors Co., Traverse City, Mich., the following board of directors was elected: W. J. Chase, Frank Trude, W. G. Rath, C. D. Peet, J. W. Patchin, C. S. May and E. G. Arntz. The board elected the following officers: W. J. Chase, president; W. G. Rath, vice-president; Frank Trude, secretary and treasurer.

* * *

Bennett to Represent Napoleon.

C. D. Peet, sales manager of the Napoleon Motors Co., Traverse City, Mich., manufacturers of Napoleon trucks, announces the closing of a contract with Fred A. Bennett, of Los Angeles, to represent the company on the Pacific Coast. Mr. Bennett has placed an initial order for eight carloads of trucks for immediate delivery.

* * *

Using Wodell's Export Lore.

Frank E. Wodell, who for three years was trade investigator in Australia for General Motors Export Co., now is assistant sales manager at headquarters in New York.

Comet Prices Higher.

Advance in the prices of Comet Six models has lately been announced by the Comet Automobile Co., of Decatur, Ill. Model C-53 has been advanced from $2,150 to $2,350. The Comet 1½-ton triple-thread worm-drive truck has been raised in price from $1,750 to $1,950.

* * *

McClaren Testing Laboratory.

The McClaren Rubber Co., Charlotte, N. C., has completed a chemical laboratory which President McClaren says is one of the finest in the industry. Increasing business presages further additions to the plant.

* * *

Freund Goes to Swinehart Tire.

Arthur W. Freund, formerly general manager of the Federal lamp division of the General Electric Co. of Chicago, is now manager of the sales development department of the Swinehart Tire & Rubber Co., Akron, O.

FRANK L. JOHNSON,

who was sales promotion manager of the Service Motor Truck Co., Wabash, Ind., and whose recent death is keenly felt. He went to the company in June, 1919, after discharge from the Marine Corps. He was an exceptionally capable young man.

Willis to Kelly-Springfield.

Frank B. Willis is now sales manager of the Kelly-Springfield Motor Truck Co. Mr. Willis was prominent in Detroit with the Chalmers Motor Co. and become vice-president and general manager of the former Hal Motor Car Co.

* * *

New Apco Branch Opened.

The first branch opened this year by the Apco Mfg. Co., makers of automotive equipment in Providence, R. I., is in San Francisco, with C. G. Dippel as manager. A second branch has been opened in Chicago, with W. B. Dean, of 20 years specific experience, in charge.

Leonide Barrere to Haynes.

Leonide Barrere has joined the Haynes Automobile Co., Kokomo, Ind., as export manager. Following a month's stay at the factory he will begin a three years' journey to important cities in Europe, Asia, Africa, India and South America. Mr. Barrere is an electrical and mechanical engineer graduate of French, German and Russian universities, and graduate of the Academy of Commerce at Odessa, Russia. He can talk Haynes in seven languages, has been in export work in Europe since 1910, and with European automobile concerns five years. He knows the American industry. His mission will be to establish foreign agencies.

* * *

Last Rites for Pritchard.

The funeral of William A. Pritchard was held in Detroit, February 14. He was vice-president of the Critchfield Co., advertising agency. His business associates were the pall bearers. He was the third officer and director of the organization to die in a period of three weeks.

* * *

Marmon Prices Rise.

Marmon cars, in both open and closed types and chassis, advanced $350 on Feb. 2. This price advance puts the Marmon 34 seven and four-passenger touring and four-passenger roadster models at the one price of $5,000 at the factory. The Marmon coupe is $6,100, the sedan is $6,600, and the limousine and town car are both priced at $6,800.

* * *

New Plant for Pennsylvania Tires.

The Pennsylvania Rubber Co., of Jeannette, Pa., will commence building of a new plant in the spring at Tonawanda, New York, according to statements from that city. The new plant will cost $2,000,000, will start operations in the fall and employ 400 people at the outset.

* * *

New Officers for Nash.

At the annual meeting of the board of directors of the Nash Motors Co. at Kenosha, Wis., Vice-President W. H. Alford was elected a member of the board; C. B. Voorhis, general sales manager, and J. T. Wilson, assistant manager of the company, were elected vice-presidents.

* * *

Prices of Jackson Cars Increased.

Prices of the various models of the Jackson Motors Corp., Jackson, Mich., have been increased as follows: Touring car, formerly $1985, now $2150; Sport model, formerly $2500, now $2650; Sedan, formerly $2850, now $3250.

* * *

Clark Equipment Adds to Plant.

The Clark Equipment Co., Buchanan, Mich., will locate its new automobile axle plant at Battle Creek, Mich. Two buildings, each 1200 feet long and 160 feet wide, will be erected, work to begin March 1.

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KINGSTON
CARBURETORS

KINGSTON CARBURETORS, made by the largest carburetor factory in America, are now offered for four well-known automobiles. In each instance the carburetor has been built specifically for the needs of the motor for which it is offered. It is MADE FOR THAT CAR.

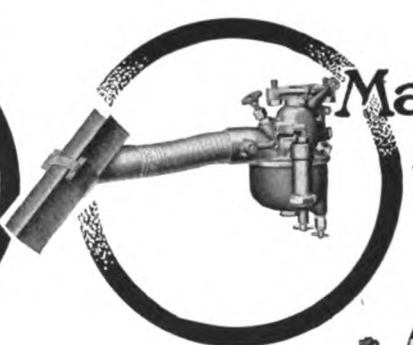
The Kingston carburetor is mechanically correct. It is constructed to give dependable service at all times, in all conditions, and in all weather.

It not only means a smooth-running motor, more powerful, more consistent, more dependable, but it means more miles to the gallon of fuel.

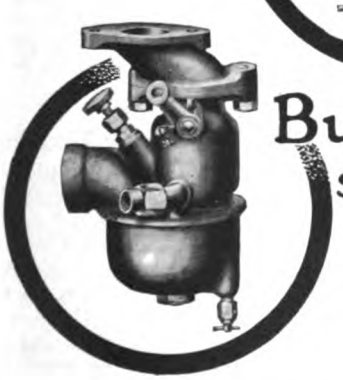
It is offered only after conclusive tests, and it is fully guaranteed by the makers. It is simple, efficient, trouble proof.

Four special Kingston models are listed below.

Chevrolet
$12.50



Maxwell
$12.50



Buick
$16.50

Dodge
$15.00

BYRNE, KINGSTON
& COMPANY

Department S

KOKOMO, INDIANA

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SCORED CYLINDERS

Repaired by "Lawrence Patent Process" with Silver-Nickel Alloy, fused electrically. No warping or enlarging of bore. Same piston and rings fit. All work absolutely guaranteed. Reshipped 24 hours after received. Endorsed by all manufacturers. Also burnt and oil scores repaired. Plants in all principal cities.

Established 1862
L. LAWRENCE & CO. SAN FRANCISCO, 116 Hyde St. — LOS ANGELES, 1030 South Grand Ave.

All infringers will be prosecuted to full extent of the law.

Kelly-Springfield Moves to N. Y.

Vice-President and General Sales Manager Otis R. Cook advises that the executive offices and general sales department of the Kelly-Springfield Tire Co. will be moved from Cleveland to New York, where the company will erect a 16-story office building. J. V. Mowe becomes general sales manager, having been assistant general sales manager, with W. H. Bell in the latter position.

Mr. Cook, who has been conected with the company nine years, and vice-president and general sales manager six years, will remain in Cleveland, looking after special work for the company as well as co-operating with the financial interests in New York. He will retain all of his stock and remain on the board. Mr. Cook has large real estate holdings in Cleveland and is about to erect another large office building adjoining the present Kelly-Springfield building, of which he is the owner, and will make his headquarters at the present address, 4614 Prospect Avenue, Cleveland.

* * *

R. & L. Factory to Move.

Labor shortage in Cleveland, is why the Rauch &Lang Electric automobile factory there will be closed when a new one, to occupy most of 18 acres, is completed in Chicopee Falls, Mass., the heart of the mill district, with plenty of skilled labor, material and transportation facilities. A new company has been chartered—Rauch & Lang, Inc. The personnel, it is understood, will include men long with the company, with Harry H. Doering as vice-president and sales manager. He is one of the country's pioneer electric car men, was sales manager of the Ohio Electric Car Co., and has been with the Rauch & Lang company seven years as sales manager and in other capacities.

* * *

American Plant for Rolls-Royce.

The American branch of Rolls-Royce, Ltd., manufacturers of the British-built Rolls-Royce car, will be known as Rolls-Royce of America, Inc. Its capital will be $7,500,000 preferred stock and 75,000 no-par shares of common stock. The car to be manufactured in America will be identical with the English vehicle and will be produced at the rate of 380 chassis a year.

* * *

Cyclomobile Plans Completed.

The Cyclomobile Mfg. Co., Toledo, announces completion of plans to produce 20,000 cars during 1920. The machine, it is said, will retail as low as $395 Toledo. Three models—one-passenger, two-passenger and a light delivery truck. Wheel base, 90 inches; tread, 44 inches; motor 13-horsepower; 3 electric lights and a starter; finish, navy blue with white wire wheels. The designer is E. M. Morley, formerly with Packard. President Hamel was with Ford in Detroit and with the Gendron Wheel Co. in Toledo.

* * *

Automotive Foundry Co. Facts.

President O. B. Dibble, of the Automotive Foundry Co., La Crosse, Wis., writes that some have confused the company with another. The company will specialize in automobile castings, cylinders, cylinder heads, etc. It is incorporated with a paid-up capital of $100,000. Incorporators are O. B. Dibble, A. A. Rasmussen and J. N. Hurt, who are also on the board of directors. Mr. Rasmussen is vice-president and Mr. Hurt secretary and treasurer.

* * *

Parenti Plans for 5,000 Cars.

Parenti Motors Co., Buffalo, which expects to exhibit complete cars at the show there, March 1, and to produce 5,000 in 1920, has adopted the Cameron air-cooled motor.

* * *

Wider Freight Cars Doors Urged.

Manager J. S. Marvin of the traffic department of the N. A. C. C. announces, as the result of a traffic meeting, and in view of freight car shortage and failure to return to their territories cars built to carry automobiles, a campaign in which all members and dealers are urged to help. This is, to din into railroad men the need of new freight cars, to be built, having large doors or double small doors, suitable for handling automobiles. An argument is that though the railways carried 300,000 carloads of automobiles in 1919, in the same year they lost, through lack of cars, 40,000 carloads which got to destinations by the drive-away method.

* * *

Sparks-Withington Co. Expands.

The Sparks-Withington Co., Jackson, Mich., prodigious producer of horns, radiators, vacuum tanks and fans, has bought out the Cleveland Radiator Co., Cleveland, O., and the Jackson plant's production is to be 85 per cent larger. New buildings will be erected—first a 4-story stockroom, 400x70, already begun; then an addition to No. 2 factory building; then a finely equipped 2-story recreation or clubhouse, with lockers for 1200 employes (who will number 2300 when the expansion is completed); then a 2-story office building; then a 25x100 building for heavy steel presses, and a 25x100 steel storage building.

The business began 20 years ago, with a force of 20 men, in a 1-story frame house equipped with a 50 horse-power engine. excepting a few weeks during the war, in 1918, the business has grown continuously with great strides.

* * *

N.A.A.C. Changes Address.

In 1900 a room was taken at 7 East Forty-second St., New York, by the National Association of Automobile Manufacturers. The body had eight members. In 1903 the Association of Licensed Automobile Manufacturers was formed. It occupied space in the same building. In 1910 the A.L.A.M. was succeeded by the Automobile Board of Trade. In 1912 the N.A.A.M. and A.B.T. merged, the National Automobile Chamber of Commerce being the result. Now the latter body moves to the new Marlin-Rockwell Bldg., at Madison Ave. and Forty-sixth St., occupying the fourteenth and fifteenth floors, including a board room 28x53 feet, with a ceiling 19 feet high, divisible into three parts for separate meetings and with shutters for eliminating daylight when lantern slides or motion pictures are shown. The whole room will seat 225 people. On the fourteenth floor the association's various departments are provided for.

* * *

W. R. Timken Critically Ill.

W. R. Timken, president of the Timken-Detroit Axle Co., is reported dangerously ill in St. Augustine, Fla. Mr. Timken's home is Pasadena, Cal., where for some time he has spent most of his time. He was recently married to Mrs. Freeman Ford, of Pasadena, and it was on their way to New York in his private car that he contracted pneumonia. Instead of proceeding to New York the car was switched to a train for Florida.

* * *

Veteran Miller's New Location.

Charles E. Miller, "the pioneer automobile supply jobber," established in 1896, will move on April 1 to 231 West 54th Street, New York City, from his well-known old address, 97 Reade Street. His new location, in the heart of the automobile section, will have 18,000 feet of floor space. As representative of a number of manufacturers, domestic and foreign, he has one branch in New York, one in Brooklyn, and others in Boston, Springfield, Hartford, Detroit, Cleveland, Philadelphia, Atlanta, New Orleans and Newark.

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That Name "Gemco" Is a Mighty Strong Selling Point

Thousands of dealers realize that Gemco Bumpers and Supplies are half sold when they enter the store. Because experienced motorists **know** that the Gemco line is standard—the best there is in workmanship, design and service.

Gemco MILWAUKEE

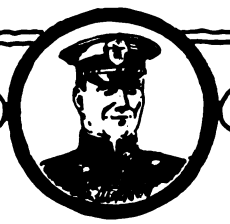
Bumpers, for both front and rear of all makes of cars, are moderately priced, yet they are a protection that is worth many times their cost.

Gemco supplies and repair parts are practical devices that are in big demand. They are **not** fads or novelties.

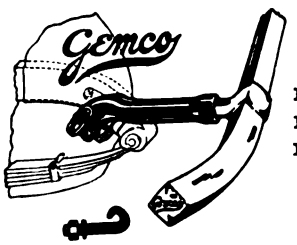
Write for 1920 Gemco catalog, cross-indexed for every make of car.

Gemco Manufacturing Co.

725 South Pierce Street - - - - Milwaukee, Wis.



Jem Coe, the Traffic Cop. Recommends:



FENDER PAN BUMPER

For those who prefer enclosed spring brackets. Attaches easily to front or rear of standard cars without interfering with splash pans or fenders. Retail prices, from $9.00 to $13.50.

TILT AND NON-TILT STEERING WHEELS

for all Ford and Chevrolet cars. A 17-inch rim to replace standard 15-inch. Malleable and aluminum spiders; ebony or walnut finish rims, corrugated or plain. Retail prices, $4.30 to $8.48.

Dear Mr. Ford Owner:

We haven't space enough to tell you all the features, so will let you ask the owner who has installed—

"LANSHIELD" SHOCK ABSORBERS

FOR ALL MODELS OF FORD CARS

Every Customer, a Satisfied One

Install Lanshield today—you will always wear a smile

FOR SALE BY

ALL BETTER DEALERS AND GARAGES

Arizona and Southern California Jobbers

Purpus Accessory Sales Co.
Los Angeles

Union Hardware Co.
Los Angeles

MANUFACTURED BY

LANSHIELD MFG. CO. :: New Haven, Conn.

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New Things in the Accessories Field

POWRLOK IN RECORD BREAKING.

The makers of the Duesenberg are greatly pleased with the Powrlok differential as a factor in the record breaking by this American car at Sheepshead Bay, recently, when 50 world records went. This improved type of differential was used by Milton, Murphy and Lewis in the time trials. They declared that in their entire track experience they had never had so little skidding—which is one of the most serious difficulties in racing, as well as in ordinary driving. The claim for the Powrlok is that it automatically distributes the greatest power to the rear wheel which has the best hold on the ground.

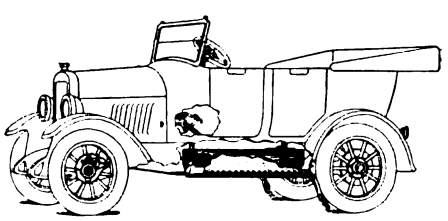
The Duesenberg drivers also found Powrlok minimized the tire wear, which is excessive at tremendous speeds when rear wheels are constantly bouncing off the ground. With the ordinary differential, when this happens the free wheel gets most of the power and spins faster than ever, and when it hits the ground again the tire receives a terrific grinding. With the Powrlok, wheels leaving the ground are automatically retarded until they again reach the ground, this of course reducing grinding.

VELTUM PNEUMATIC VALVE GRINDER.

The pneumatic principle and throttle control of the Veltum Pneumatic Valve Grinder gives the operator any speed from 50 to 1,000 strokes per minute, making it unnecessary to go over a valve a second time. It operates on 50 to 500 pounds of air from the air tank, plenty of power being developed to grind any size valve. With this grinder it is possible to fit oversize valve stems into valve guides, grind valve cages as well as valves, quickly relieve stuck valves, grind carburetor float valve stems and fuel system valves, grind valves that have no provision for tool to fit in head, and grind eighth valve on Ford engines. All castings are made of aluminum, which gives the machine unusual lightness. This tool is made by Warnock-Wirth Co., 624 So. Michigan Ave., Chicago, and is listed at $30.

KUPPER ANTI-SKID SANDER DEVICE.

David Kupfer, who appears to be connected with the Kupfer candy manufacturing concern in Chicago, has received letters patent on an anti-skid sander. It

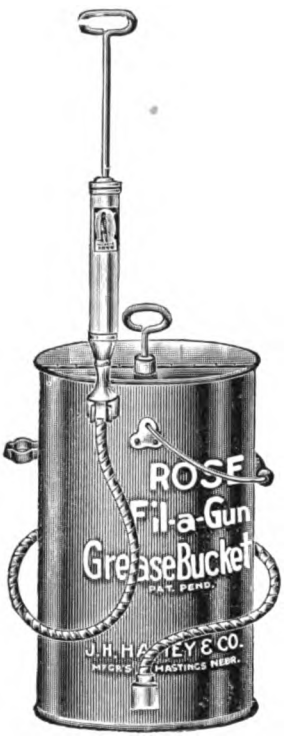


CAR EQUIPPED WITH SANDER.

spreads sand in front of the rear wheels. It is operated by foot pressure connecting the transmission with worm shafts which are imbedded in the sand boxes and which convey the sand therefrom.

ROSE FIL-A-GUN GREASE BUCKET.

The Frank Rose Mfg. Co., formerly J. H. Haney & Co., Hastings, Neb., are marketing the Fil-a-gun Grease bucket, with features said not to be in any similar de-



BUCKET AND GREASE GUN.

vice. Attached to its side is a Rose topper nozzle grease gun, which can be placed on the special hose nozzle and filled with one stroke of the bucket pump, to lubricate universal joints, cam gear cases, etc., that cannot be lubricated with the hose. The bucket also pumps direct to the gearset and rear axle assembly through the hose. United States and foreign patents are pending.

NEW MITCHELL WINDSIELD.

It is claimed all light reflections are eliminated by the new bowed and tilted windshield used on all closed Mitchell models. This has been a drawback of closed cars, annoying to drivers because of confusion of the dancing reflections with headlights of approaching cars. The new shield even throws reflections of lights inside of the car entirely out of the operator's line of vision. Another advantage is that the corner posts are set far back, for freedom of vision, particularly as to the left side of the road.

HEXMAN HOT AIR CONTROL.

Under the name Hexman, a hot air controlling device for carburetors will be manufactured by the Hexman Moto Co., composed of six department heads of the Mitchell Motors Co., Inc. The initial capital stock is $30,000. A factory has been leased and is being equipped, in Racine.

WILSON TOOLS FOR FORDS.

K. R. Wilson, 10-16 Lock St., Buffalo, N. Y., makes modern tools for Ford shops, designing each tool for a particular purpose. His line now totals 14 items, with half a dozen more in development. A suggested $300 equipment for a two-man shop, comprises more than 40 items for use on motor, transmission, front and rear axle, miscellaneous. New tools illustrated in the latest catalog include a valve seater and facer, propeller shaft reamer with guide, propeller shaft bearing end mill, combination end mill and arbor for facing spindle body bushings and worn axle forgings, and spiral reamer and jog for cast iron shaft bearings. Mr. Wilson is having difficulty meeting the demand, which looks like a 1920 total of $300,000. He believes that scientific service work, to keep automobiles in right condition, has only begun, and that the surface of the market for special tools has only been scratched. He says a really good automobile need never be allowed to wear out.

RAYDEX TRANSMISSION RE-LINER.

The claim for the Raydex re-liner for Ford transmissions, made by the Raydex Mfg. Co., Brackenridge, Pa., is that it makes easy work of an otherwise "man's job." The handplate for the transmission case is taken off, pedal pulled out and the Raydex re-liner slipped in. Tearing down the entire transmission to change the fabric is eliminated. The article is of tough, half-hardened cold rolled steel and the lining is riveted to this. The re-liner slips around the inside transmission band quickly and easily and none of the original equipment is disturbed.

DAY-NITE AUTO SIGNAL, COAST IDEA.

The illustration shows a Pacific Coast idea which is meeting much success—the Day-Nite Auto Signal, made and distributed by a San Francisco concern, the Day-Nite Signal Co., 82 Eighth St. In it are combined two-arm signal, tail lamp and

VIEW OF DAY-NITE AUTO SIGNAL.

number plate bracket. At night the tail lamp illuminates the arms, without additional use of electricity. Control is mechanical, from the steering wheel column. This device, for which 100 per cent 24-hour efficiency is claimed, with all advantages of mechanical and electrical devices and no disadvantages, is handsomely finished in nickel.

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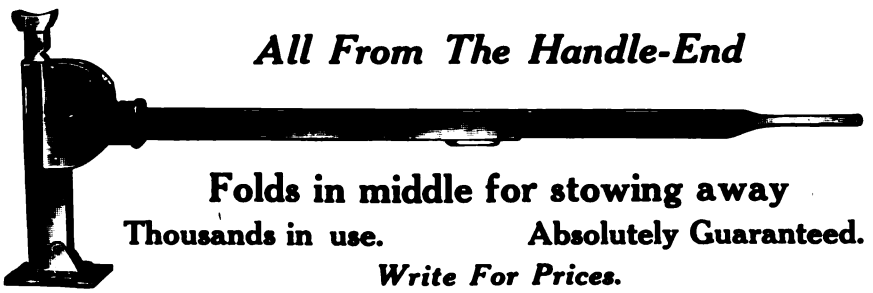
Lane's H.-C. Auto Jack

Is Placed On Handle and Pushed Under Car

PLACED OPERATED REVERSED WITHDRAWN

All From The Handle-End



Folds in middle for stowing away

Thousands in use. Absolutely Guaranteed.

Write For Prices.

Pacific Coast Representative

JOHN T. ROWNTREE, Inc.

SAN FRANCISCO — 979 Monadnock Building

LOS ANGELES — 601 Higgins Building

SEATTLE — 503 Maynard Building

MANUFACTURED BY

LANE BROS. CO.. Poughkeepsie, New York

MANSION STREET

You're the Doctor! Here's the Remedy for Sick Fords

When Ford owners complain of ignition troubles, prescribe a Milwaukee Timer. It's a sure cure for nine out of ten Ford aches and pains.

The Milwaukee Timer is so precisely finished and assembled that it always gives a hot, fat spark, perfectly timed, at all speeds. It assures even pulling, easy starting and sweet running.

Over 500,000 of these trouble-proof replacement timers were sold in 1919. Over 1,000,000 will be sold this year. Are **you** stocked, ready to get your share of this profitable business?

The Milwaukee Timer is interchangeable with the stock timer. Also fits Fordson Tractor. Retail price, $2.25.

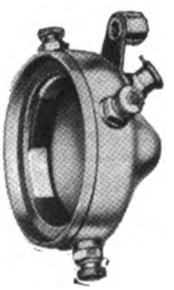
Milwaukee Auto Engine & Supply Co.

Milwaukee, Wisconsin

THE ZINKE CO., Chicago, Ill., *Sales Representatives*

MILWAUKEE TIMER for FORDS

Built Like a Fine Speedometer



Compare the superior finish and precise workmanship of the Milwaukee Timer with that of ordinary timers. Then you'll understand why 75% of all Auto Supply Jobbers sell and recommend the Milwaukee Timer.

Brush Assembly

Guaranteed to outwear any other made. Roller always bears **squarely** on contacts.

Roller

High-carbon tool steel; machined, hardened, ground and polished. Almost wear-proof.

Roller Pin

Ground and polished to a perfect, quiet-running fit.

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ECONOMY IN GASKETS WITH TENAX.

Long ago shop owners discovered that trying to keep a stock of gaskets on hand was entirely impracticable. With new sizes appearing on every new engine and with the high cost of tying up a lot of money in a slowly-moving stock, the wise man decided to make his own gaskets. For this need, a good standard quality sheet was necessary—and the need has been admirably filled by Tenax Compressed Asbestos Sheet Packing.

Tenax has been on the market for 20 years and has enjoyed an increase in sale in proportion to the increase in the use of automobiles, tractors, trucks and gas engines. It is practically indestructible, resisting temperatures that turn iron to a thin liquid and standing up permanently against the action of commercial acids, superheated steam, oil, etc.

It is due largely to the Tenax standard of quality that the mechanic has developed confidence in his own hand-made gasket. Tenax not only stands up indefinitely, but also trims easily, requires no following up and does not squeeze out of the joint or "fry" under extreme heat.

Tenax is made in sheets 50x50 inches and in thicknesses of 1/32 to 1/8 inch inclusive. Also a 1/64-inch sheet—black graphited is supplied. The standard color is blue and it is known under the slogan "The Original Blue Sheet."

We have the assurance of the Advance Packing & Supply Co., 17 N. Franklin St., Chicago, that they will be glad to supply small samples and prices to any who write them.

WAYNE BUMPER FOR OVERLAND FOUR

The Wayne bumper for the Overland 4 is a new invention just placed on the market by the Wayne Bumper Co., Fort Wayne, Ind. The most advanced ideas of bumper construction have been embodied in this device, which is the outcome of the combined efforts of two expert mechanics of the Fort Wayne Overland Co. Representatives of the Willys-Overland Co. have fully endorsed it. It is simple, strong and durable, looks neat and is easily attached. It is something besides an attachment, however, as it gives a finished appearance to the car. All of the bolts, braces, etc., are covered by the pan covering the springs and the impression given is that the bumper is an original part of the car.

The manufacturers are anticipating a large sale, judging by the interest shown by dealers and distributors who have seen the finished product.

LAURSEN HYDRAULIC GEAR SHIFT.

The United States Auto Gear Shift Co., 122 South Michigan Ave., Chicago, manufactures the Laursen Hydraulic Gear Shift. It states it is a $1,000,000 corporation. Its factory is in Eau Claire, Wis. Its device is claimed to shift gears automatically, throughout the life of the car. The hydraulic power is by means of oil, which forces out the pistons in a series of shifting cylinders. These pistons operate a shifting rod connected directly with the transmission. When the driver presses his foot on the clutch pedal the clutch is released and the proper gear is engaged. The speed is selected by setting a small indicator on a quadrant just under the steering wheel, an operation as simple as retarding the spark. The added pressure needed on the clutch pedal is said to be scarcely noticeable.

The idea is to eliminate the old fashioned had gear shift lever, so that even weak nersons may drive and keep both hands on the steering wheel. It is claimed to prevent stripped gears, reduce wear on transmission and clutch, make room for a third person on the front seat, and make easy on any car the use of three speeds forward and one reverse. One can anticipate change in speed by setting the indicator, then changing speed instantly when desired by foot pressure on the clutch pedal. Installation requires a few hours and does not interfere with other mechanism.

"WOL-KEE RED CAP" HENCEFORTH.

Finding that a mail order house was marketing a battery bearing the name Peerless, the same as that used by the Peerless Storage Battery Co., Louisville, Ky., the latter has changed its name to Wolke Lead Battery Co. and the name of its product to Wol-Kee Red Cap. Its lighting and starting batteries have red rubber vent caps, so the new name fits. The plant is being enlarged to have 75,000 additional square feet of floor space, to permit an output of 750,000 completed batteries daily.

INTERSTATE COMPRESSION WHISTLE.

The Interstate Compression Whistle is a startling warning signal that is instantly installed by screwing into the priming cup

CAN BE INSTALLED INSTANTLY.

opening. It is simply made, thoroughly reliable in its action, and guaranteed for the life of the car or truck. It fits cars of all makes, adapters being supplied for cars without priming cups. The whistle, which is operated from the driver's seat, has a polished aluminum bowl and phosphor bronze valve. It is made in three models—Single Tone, $3.50; Jumbo (oversize Single Tone), $4; Tri-Tone (chime), $5. Adapters are 75 cents each. This signal is manufactured by the Interstate Tool & Mfg. Co., 624 So. Michigan Ave., Chicago.

KORK-TRED ALL-METAL FAN BELT FOR FORD CARS.

The loafing fan belt, which either turns not at all, or turns three or four times and then takes a rest for the next one or two turns, is one of the greatest enemies the Ford engine and the Ford owner have.

The reason is that the fan belt has lost its grip and has to be tightened up constantly on the pulleys. This is not so with the Kork-Tred All-Metal Fan Belt for Fords, according to the makers, Kork-Tred, Inc., of New York City.

Cork is the vital feature in Kork-Tred Fan Belts. Cork cannot slip, it engages smoothly and never becomes hard, slippery or loses its grip. It resists heat, grease and oil and is peculiarly resilient, compressing and expanding easily. The Cork-Tred Fan Belt sells for $1.

Aiding the belt to keep its grip on the pulleys are air cushions at the bottom of each cup, the cork being slightly above the surface of the metal link.

The cork, the metal and the air cushion combined enable the Kork-Tred All-Metal Fan Belt to keep a velvety, yet bulldog hold on the pulleys, doing away with the usual 25 to 50 per cent slippage in this important part of the engine cooling system.

KORK-TRED TRANSMISSION LINING FOR FORD CARS.

Much of the jerky, clattering action of many Ford cars in starting, running and stopping is to be blamed on the transmission lining. The ordinary lining becomes smooth and slippery from wear, loses its grip and the result is lurches and rattles in going into low or reverse and slippage in accelerating the car's speed.

The peculiar excellent gripping, non-slipping qualities are used in Kork-Tred Transmission Lining for Ford cars, manufactured by Kork-Tred, Inc., of New York City. Cork is set skillfully into small retaining oil cups, riveted into the fabric lining. After being treated with the makers' secret process it will wear until the fabric has been reduced to 1/1000 inch and be still a slip-preventer.

When Kork-Tred Lining is drawn against the Ford transmission drum the corks, set slightly above the fabric surface, take hold first. They are gradually pressed into the oil cups, the oil then flows out and lubricates the fabric, preventing it from being scorched and lengthening its life.

ADPASCO—PREPARED PAPER FOR GASKETS.

Adpasco Treated Gasket Paper finds a ready market on the Coast. It is a sheet product 36x40 inches and of substantial weight, about 12 ounces to the sheet. This paper actually has a place waiting for it in nearly every shop in the country, because it is water-proof and oil-proof in the highest degree—guaranteed by the manufacturer. Its use does away with makeshifts in the form of wrapping paper, etc., and also relieves the busy mechanic of the temptation of using expensive asbestos packing in place of looking around for suitable paper. Adpasco saves both time and money for those who use it.

The Advance Packing & Supply Co., 17 N. Franklin St., Chicago, enjoyed such good sales with this product late last season that they were at one time 60 days behind in orders, but we understand this condition has been taken care of and their production substantially increased. They assure us they will be glad to supply samples and prices to those who address them regarding this material.

IMPROVED C-H GEAR SHIFT.

Among improvements in the C-H gear shift, distributed in the United States by the Fred E. Castle Co., Detroit, are preselection of speed, reduced weight, reduced installation cost, easier operation and perfect control, and elimination of push button by using a small lever on the quadrant. The C-H is standard on Premiers, and other automobile makers are carefully considering it. The Castle Co. will have associated with it henceforth, in its Detroit office, Howard S. Lyon, engineer of the Cutler Hammer Mfg. Co., Milwaukee, through the courtesy of that company.

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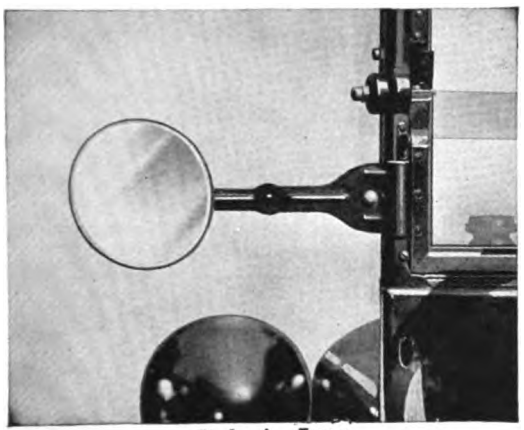
Hindview Auto Mirrors



Style A—Long

The "Hindview" Auto Mirror prevents accidents by enabling the driver to keep an eye on the rear traffic without losing sight of the road ahead. The Ball Joint allows immediate adjustment to any desired angle without the use of any tool.

Write for descriptive folder No. 19 showing complete line.

A. E. MOHRIG, 340 Phelan Bldg., San Francisco, Cal.
Pacific Coast Representative

KALES STAMPING COMPANY
444 West Lafayette Blvd. DETROIT, MICH.

Economy TIRE COVER

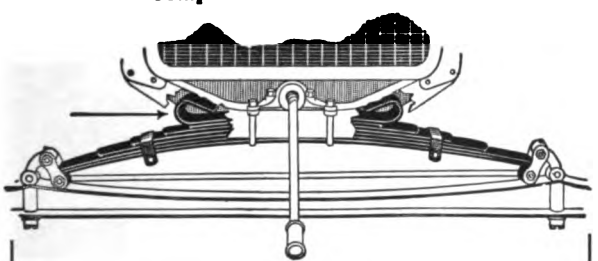
The practical service rendered the user of Economy Tire Covers—their simplicity, efficiency, economy—mean real money for the dealer.

Economy Covers embody all the points that make quick sales for you—and they keep on selling because they make good.

DEALERS—Write us today and ask for information. Get on the Economy "pay roll" while the big selling season is on.

Economy Tire Cover Co.
1319 Margo Street :: Los Angeles, Calif.

SAVEUR Springs Mean Economy, Comfort, Complete Satisfaction for Ford Owners



SAVEUR Ford Front Springs Keep The Motor in Alignment

Any Ford car owner, who is riding on the SAVEUR will readily give you the reasons why he equipped his car with this trouble saver.

This remarkable spring eases those inevitable road shocks that every motorist is obliged to experience. The open loops withstand these racking jars and jolts and their resilient strength is ever dependable. The SAVEUR spring means longer Ford front spring service and a decided saving in expense.

PRICE:

Saveur Ford Front Spring complete.....$6.50
Saveur Open Looped Leaf only..... 2.50

Quickly fitted on any Ford spring.

WRITE FOR COMPLETE INFORMATION.

New Era Spring & Specialty Co.
1190 Hamilton Ave., Grand Rapids, Mich.

IF IT'S Made of Glass AND BROKEN "SEE US"

Plate Window Show Case Sky-light
Windshield Head-light Mirrors
Windguards Rear Curtain Lights
Etc.

"Satisfaction and Prompt Service Assured"

ANGELUS GLASS CO.
Phone 62975
1009 S. LOS ANGELES ST. :: LOS ANGELES

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DE LUXE WINDSHIELD

"THE LAST WORD IN CAR COMFORT"

Protects Occupants from Wind and Dust and Adds Distinction to the Car.

De Luxe Has Extra Adjustment for Setting Shields to Create a Breeze in Hot Weather and Ventilate Car.

Only Shield Clearing Side Curtains.

Cast brass parts (non-rusting), finest nickel and black enamel, best windshield glass, two adjustments instead of one, designs to fit your car. BEST. NOT CHEAPEST. Installed in 5 minutes

PRICE $25.00

For Sale at All Dealers and Supply Houses.

DE LUXE WINDSHIELD CO.

341 LARKIN ST. MFRS. SAN FRANCISCO, CAL.

Mail orders promptly filled.

103

Motor Truck Manufacturers

Now Furnish Pierce Governors as Standard Equipment

The overwhelming endorsement that the truck industry has given Pierce Governors proves conclusively two things:

—it proves that these manufacturers recognize the necessity of automatic speed control if their trucks are to deliver maximum service at minimum cost.

—and it proves beyond any question of a doubt the superiority of Pierce Governors over governors of other types.

The Pierce Governor Company
Anderson, Indiana

World's Largest Governor Builders

Western Trade Notes

Los Angeles, Cal.—J. H. MacClure, secretary-treasurer of the Boulevard Motors Co., died recently of pneumonia.—The Kay Motor Supply Co. has been incorporated, capital $100,000, by C. H. Kay, W. F. Burbank and E. S. Harwood; they are well known as Exide battery distributors.—The Southern California Auto Cleaning Co. has been opened at 1049 S. Flower St. by Capt. Sherwood W. Whitcher.—Owing to illness, Blaine Russell has retired from the Retzer-Russell Tire Co., city distributor of Horseshoe tires.—R. G. Lovell has been made superintendent of service for the F. O. Renstrom Co.—Perfection Tire & Supply Co., capital stock $100,000, has been incorporated by Secondo Guasti, Jr., E. M. House, Nicola Grulli and William Drobson.—The United Motor Service, Inc., handling sales and service on Klaxon, Remy and Delco products, has appointed Kay & Burbank and the Electric Equipment Co. authorized sales and service stations.—The Western Battery Manufacturers, Inc., has been formed, $50,000 capital stock, by F. E. Sweet, V. T. Combs and William Kane.

Pasadena, Cal.—The Rubber City Clearing House Co., of Los Angeles, has opened a branch at 34 Fair Oaks Ave.

Van Nuys, Cal.—G. A. Huffaker has opened his $35,000 garage on Sherman Way.

Garden Grove, Cal.—C. B. Henry has bought the Garden Grove Garage.

Pomona, Cal.—George M. Huebsch, Chevrolet dealer, has added the agency for Cletrac tractors.—Homer G. Robinson is now distributor for Gates half-sole tires and tubes.

Upland, Cal.—Shannon & South have opened a general automobile repair establishment on Tenth St., handling Goodyear, Norwalk and Fisk tires.

Chino, Cal.—The Maple Leaf Garage and Machine Shop is now operated by Dodd Dwyer.

Riverside, Cal.—The Hedding Motor Co., a new firm, will handle Westcott and Allen cars here.—J. W. Albright has opened a machine and repair business at 772 W. Tenth St.; he was for seventeen years with the White-Middleton Gas Engine Works, of Chicago.—G. E. Mills, formerly of the Riverside Vulcanizing Co., has opened a new tire agency on Eighth St., associated with Louis and William LaRue.

Corona, Cal.—R. A. Newron, Ford car and Fordson truck dealer, will build a large garage here to accommodate increased business.

Walnut Creek, Cal.—A. E. Whitehead has bought the interest of F. R. Harrell in the San Ramon Valley Garage and is now a partner with Guy F. Spencer.

Eureka, Cal.—Harvey Harper, Ford agent, will build a fine new garage, to cost $10,000, on B St.

San Francisco, Cal.—The Power Rubber Co., Racine tire distributors, will move into its new building on Van Ness Ave. near Polk St. in about a month.—The Automotive Specialty Co. has been authorized to issue capital stock to its five incorporators and to Frank McCurtain and E. L. McDonald for their gasoline priming device.—The Michelin Tire Co. will have a one-story brick and concrete building erected for it on W. Twelfth St. near Howard, costing $26,000.

Mayfield, Cal.—The Mayfield Garage has been sold by Henry Bracht to J. M. Whittemore.

Kingsburg, Cal.—The Reliable Garage has been bought from A. H. Jorpe by Hallstrom, Bergstrom & Hallstrom; they will re-name it the Day & Night Garage.

Chico, Cal.—A branch for the Jack Lane Motor Co. has been opened here in charge of H. E. Ward, handling Roamer, Lexington and Allen cars.—The Sproul Bldg. will be remodeled at a cost of $30,000 and will be occupied by the Chico Motor Sales Co.—A $6,000 brick garage to be built adjoining the Byrne & Byrne Garage will be leased by them as an extension to their quarters.

Chowchilla, Cal.—Rhine & Fowler have bought the garage business of Nichols & Irvine here.

Corning, Cal.—James Siler has taken the Jordan Six agency.

Portland, Ore.—C. L. Modesitt has become branch manager here for the Northwest Highway Trailer Co.

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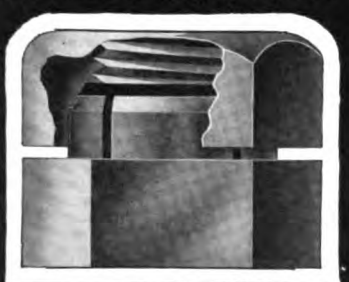
Think this over!
The strength of a chain only equals its weakest link and the best engine or machine built is useless if a vital nut jars loose.

DRAKE LOCK-NUTS
TRADE MARK REGISTERED U.S. PAT OFF



"NEVER JAR LOOSE"

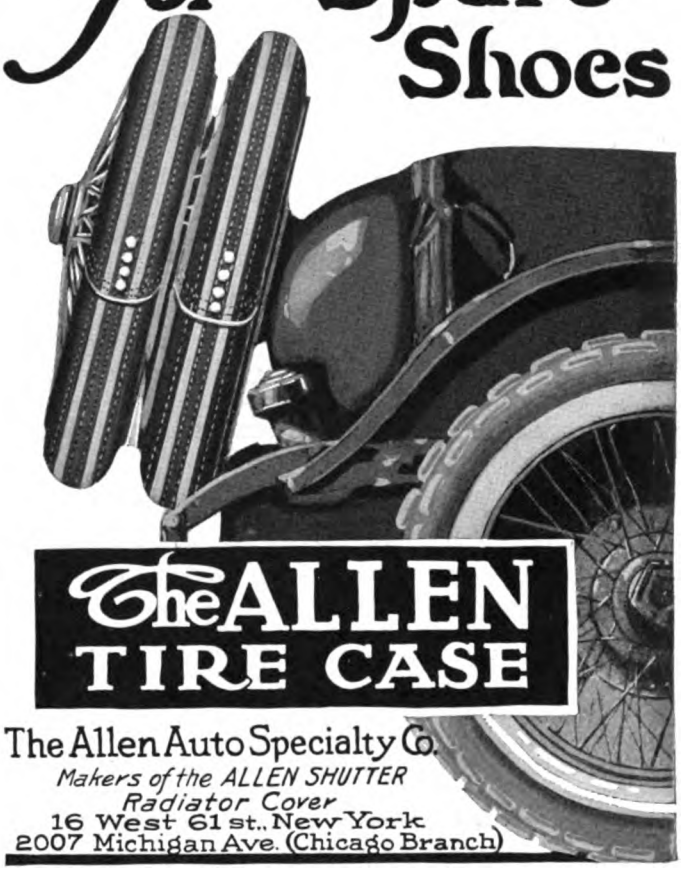
WRITE FOR SAMPLE

STANDARD EQUIPMENT COVERING VITAL POINTS BY MANY CAREFUL MANUFACTURERS.

TRY THEM ON YOUR UPKEEP.
SPECIFY ON ALL NEW EQUIPMENT.

DRAKE LOCK-NUT CO.
CLEVELAND, OHIO (Plants) SAN FRANCISCO, CAL.

for **Spare Shoes**



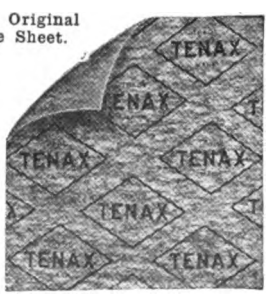
The ALLEN TIRE CASE

The Allen Auto Specialty Co.
Makers of the ALLEN SHUTTER Radiator Cover
16 West 61 st., New York
2007 Michigan Ave. (Chicago Branch)

Before Other Packings Fail

USE TRADE **TENAX** MARK

The Original Blue Sheet.



Get this wonderful Compressed Asbestos Sheet Packing. TENAX is an ideal packing for any joint—permanent whether subjected to gas engine exhaust, cylinder explosions, acid, alkali, superheated steam or any other active agent. Can't burn, rot or squeeze out, and needs no following up. Preferred by the finest engineers and sold by the name "TENAX" for twenty years. Comes in sheets 50x5 inches. Thickness 1/32 to 1/8 inch, inclusive. Made also in 1/64 inch thickness, black graphited sheet only.

Pack with TENAX and forget the joint forever.

Ask your Jobber or write us now for prices and small sample.

Advance Packing & Supply Co.
17 North Franklin Street Chicago, Ill.
ALLIED INDUSTRIES, Inc., Pacific Coast Representatives
283 Minna St., San Francisco, Cal.; 340 Azusa St., Los Angeles, Cal.; 1252 First Ave., So. Seattle, Wash.

THE NATION CO.

MANUFACTURERS OF THE FOLLOWING
TRIED AND PROVEN PRODUCTS

PRICES AND SAMPLES MAILED UPON REQUEST.
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Large stock of all standard sizes on hand for immediate exchange.

Special Bearings Made to Order.
Factory Distributors for New
FAFNIR BALL BEARINGS
BOWER ROLLER BEARINGS

PACIFIC BALL BEARING CO.
415 West Pico Street Los Angeles, Cal.

AUTO
"Cleaning and Polishing"
By a Genuine Institution Employing Experts, Operating under later and Up To Date Methods
"SERVICE TO THE LAST LETTER"
—OUR MOTTO—
OUR NEW AND COMMODIOUS BRICK STRUCTURE AFFORDS FIREPROOF STORAGE
"USED CARS AND ACCESSORIES"
HEWITT TIRES AND TUBES
Southern California Auto Cleaning Company
(CAPT. SHERWOOD W. WHITCHER)
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Eliminate Oil Pumping and Compression Leaks with—

WEDGE RITE PISTON RING CO. INC.

J. E. BENEDICT COMPANY
1212 South Figueroa Street Los Angeles, Cal.
Factory Representatives West of the Rockies

MOTOR WEST

reaches a larger percentage of dealers than any automobile publication circulated on the

PACIFIC COAST

Lodi, Cal.—Orrin D. Kellerman and P. R. Johnson have bought the Wallis Garage, to operate it as the Kellerman & Johnson Garage.—The Tokay City Garage has been purchased by M. E. McKenzie.—G. A. and C. Sparks are now owners of the Lodi Ignition & Garage Co.

Modesto, Cal.—The Clark-Southwell-Huntley Co., automobile dealers, have incorporated for $50,000.

Spokane, Wash.—Former Major Harry Heylman, of the Motor Transport Corps, has been made manager of the city branch of the Washington Tire & Rubber Co.—The Blazeout Co., manufacturing a fire preventive, the invention of H. M. Shay, a chemist, has started operations at the former Schade Brewery, headed by D. H. Billings.—E. J. Carr has opened a tire agency at Main and Second Ave., handling Western States tires.—R. P. Lewis has been named vice-president of the Sands Motor Car Co., new Studebaker agency.—The Northwest Machinery & Storage Co., capital stock $25,000, has been formed by R. E. Gallagher and W. A. Alexander; the Gallagher Machinery Co. will, however, remain a separate company.—The City Tire Shop has bought its own quarters, Second and Monroe Sts., for $16,600.

Seattle, Wash.—Chanslor & Lyon Co. have moved into their handsome new four-story building at Twelfth Ave. and E. Madison St.—F. B. Eylar has been made secretary-treasurer and Seattle retail sales manager for the Seattle Motor Car Corp., Elgin dealers.—The Diamond T Truck Co. has opened in new quarters at 1117 E. Union St.—A two-story building, reinforced concrete and steel, costing $40,000, will be built for the Kelly-Springfield Rubber Co. at Ninth Ave. and Hubbell Way.

Prosser, Wash.—The Central Yakima Ranches Co. has taken the Velie and Mitchell agencies here.

Corvallis, Wash.—Best & Son have bought the Benton county agency for Commonwealth, Sayers and Jackson cars from E. B. Waterman.

Toledo, Wash.—The Toledo Garage & Land Co. has been formed here with $6,000 capital stock by Lawrence Carpenter, Clara H. Carpenter and Grave V. Carpenter; they will do a general automobile business.

Denver, Colo.—E. T. Fischer has been appointed manager of the local branch of the McGraw Tire & Rubber Co.; he was formerly connected with the United States and Fisk organizations.

Butte, Mont.—Stewart Leggatt has bought a half interest in the Grand Avenue Garage, which will continue to distribute Stephens Salient Six cars.

Prineville, Ore.—Brent & Stroud, who operate the Motor Inn Garage at Pauline, have opened a branch sales agency here, handling Hudson cars and Parrett farm tractors.

Round Mountain, Cal.—W. H. Plaetke, lately from Arizona, has opened an up-to-date garage business here.

Tacoma, Wash.—W. R. Robinson, formerly connected with the Seattle Automobile Sales Co., Chandler dealer in Seattle, has been appointed sales manager for the Richardson Motor Co., dealers here for Chandler and Cleveland cars.

Klamath Falls, Ore.—The White Pelican Garage, damaged severely by fire recently, will be repaired and re-occupied by the company, which has continued handling Buick, Overland, Diamond T and Federal lines in other quarters.

Tombstone, Ariz.—The J. C. Dueguet Garage has located in the large Cummings brick building.

Flagstaff, Ariz.—Z. A. Bissonnette has taken the agency for the Studebaker and the John Deere plow and has leased the quarters of the Northern Arizona Motor Co.

Deer Lodge, Mont.—John F. Wolf and C. J. Briggs have bought the Deer Lodge Garage from C. J. Kading.

Condon, Ore.—L. E. Fry has bought ground and will build sales quarters for the Ford and Fordson agencies; he will shortly add the Gary truck agency.

Aztec, N. M.—William Neitzel has bought the interests of C. J. and D. Giles in the Aztec Auto Co.

Bellingham, Wash.—The Knutzen Auto Co. has been incorporated here, succeeding Knutzen Brothers, and will continue as dealer for Maxwell, Chalmers, Reo and Cole Eight cars and Garford, Maxwell and Reo trucks.

San Francisco, Cal.—G. E. Griffin has been promoted to sales manager for the Hudson sales department of the H. O. Harrison Co.; L. E. Townsley becomes Essex car sales manager.

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Cut No. 28
For Gasoline at the Curb

Money-Makers

Wayne Curb Pumps give you better profits because they are so well made that they last longer, serve better and are always on the job at the curb, for you and your trade. Write for Bulletins 280MW. and 11MW.

WAYNE OIL TANK & PUMP CO.
711 Canal St. Ft. Wayne, Ind.
Sales Offices in All Large Cities
Representatives Everywhere

Wayne
Honest Measure
Pumps

Cut No. 11
For Air and Water at the Curb.

The Salient Motor Car

STEPHENS
Salient Six

Surpassing excellence in all its qualities, features and acts of performance is the kind of value and service that makes the Stephens the Salient Motor Car.

STEPHENS MOTOR WORKS
of Moline Plow Co.
Sales Office, Moline, Ill. Factories, Freeport, Ill.

STEPHENS
Salient Six

BARNEY OLDFIELD TIRES

"The Most Trustworthy Tires Built"

THE OLDFIELD TIRE CO.
BARNEY OLDFIELD, *President*
CLEVELAND
Export Department: 42 Broadway, New York

SECURITY AUTO LOCK

The original loose wheel lock for Fords. Approved by under writers. Insurance reduced 15%. Made of solid brass. Nickel plated. Easily installed in 10 minutes. No drilling. No filing.

No sawing.

No chiseling.

Price $6.50.

Western Distributors Wanted.

SECURITY AUTO LOCK CO.
410 N. Paulina St.
Chicago, Ill.

MORE POWER — LESS FUEL

SU-DIG SERIES PLUGS are the only spark plugs that produce **TWO SIMULTANEOUS SPARKS** in each cylinder when connected with the ordinary plug. The two opposed sparks ignite the mixture at two points at once. This burns the gas more than **TWICE AS FAST**, resulting in a wonderful **INCREASE** in **POWER** and **GASOLINE MILEAGE**, and **WITHOUT ANY CHANGE IN THE PRESENT EQUIPMENT.**

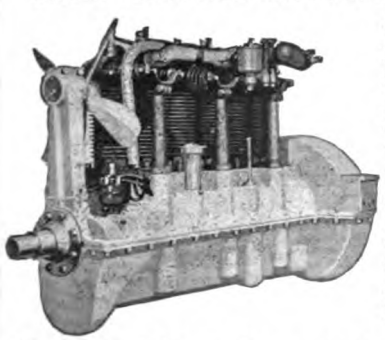
Free booklet, "How to Get More Power." Write for it. Please mention car.

CHANSLOR & LYON CO.,
San Francisco, Los Angeles, Fresno, Oakland, Seattle, Portland.

McCOY MOTOR SUPPLY CO., San Francisco, Los Angeles.

SUPERIOR MOTOR POWER CO.,
135 D Fifth Avenue New York

DIRECT **CAMERON MOTOR** AIR COOLED



The Cameron Air Cooled Motor is the last word in engine refinement. Engine temperature is constant in efficiency, regardless of all conditions. Cars so equipped are freed from the inconstant and unsatisfactory water cooling system with its steam generating, freezing and leaking evils.

Cameron Motors Corp. 2 Columbus Circle, New York City

SUNDERMAN Vacuum Carburetor

$7.50
F. O. B. Newburgh N. Y.

Model F, for Ford, Metz and Saxon Four, has shown marvelous gasoline economy and remarkable increase in power.

Perfect carburetion can be secured only through perfect mixing of gasoline and air in proper proportions. The Sunderman Carburetor not only produces such a mixture but breaks up the gasoline globules so finely that a **MORE POWERFUL** mixture is the result. Sunderman-equipped cars save from 30 to 50% in gasoline—increase mileage from 42 to 100%.

Order at Once—Splendid Dealer's Proposition.

SUNDERMAN CORPORATION, 17 Chambers St., Newburgh, N. Y.

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EISEMANN
MAGNETO

For Easy Starting in Any Temperature—
no other form of ignition ever devised equals the Eisemann Magneto.

For dependability under all conditions it is supreme.

Eisemann Magneto Corporation
32 33rd Street, Brooklyn, N. Y.
Chicago, 910 S. Michigan Ave.
Detroit, 85 Willis Ave., West.

The Motor Truck bought today without Electric Starting and Lighting will be out-of date to-morrow

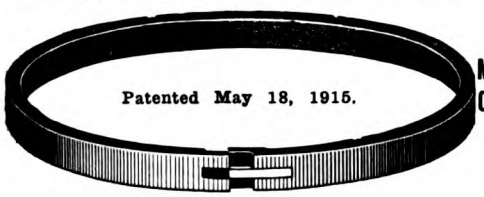
BETHLEHEM
Internal Gear Drive
MOTOR TRUCKS
Dependable Delivery
BETHLEHEM MOTORS CORP'N, ALLENTOWN, PA.

The Motor Truck bought today without Electric Starting and Lighting will be out-of date to-morrow

1½ tons · 2½ tons · 3½ tons

Peerless Piston Rings

Holds Oil Down



Maintains Compression

NOTE LOCK JOINT

C. D. HELLYER
909 S. Grand Avenue
Los Angeles

BARNETT AUTO BODY CO.
430 Golden Gate Avenue
San Francisco

WINTHER MOTOR TRUCKS KENOSHA, WIS.

Simple as A B C

THE reason for the Winther supremacy in both sales and service is as simple as A,B,C. Development as a direct result of war-time conditions, Winther best met the needs of a nation at war and best meets the need of a nation in peace.

WINTHER (REAR DRIVE) AND WINTHER-MARWIN (FOUR-WHEEL DRIVE) TRUCKS ARE EACH BUILT IN SEVEN SIZES, 1½ TO 7 TONS CAPACITY.

WINTHER MOTOR TRUCK COMPANY
Dept. 20. KENOSHA, WIS.

Phoenix, Ariz.—The Ajax Rubber Co. has opened a branch here in charge of Edmund S. Cortelyou, recent office manager of the Los Angeles branch.

Los Angeles, Cal.—The J. B. Wood Tire Co., Hewitt tire distributor, has moved to 462-64 E. Third St.

Oakland, Cal.—Konrad Gobel and W. E. Eldridge will erect new and larger quarters to accommodate their extensive body building plant.—R. H. Hanjes has been made vice-president of the Frank A. Busse Sales Co., of San Francisco, Brunswick tire dealers; he will handle sales in Oakland.

Pixley, Cal.—W. D. Cook, Ford agent, of Tulare is to have a new branch garage, 7,500 square feet, built for him here.

Hollister, Cal.—M. A. Joseph has sold the Service Garage to D. C. Gunther and R. B. Freeman.

Stockton, Cal.—R. R. O'Brien has bought the Western Rubber Co.; Channel & Miner will carry the vulcanizing business.

Willows, Cal.—Klemmer Brothers, Cadillac, Paige and Chalmers dealers will open a branch in Colusa with the Westcamp & Stowe Garage.

Richfield, Ida.—H. A. Giese has sold the Ford Garage to Kodish Brothers.

Porterville, Cal.—The Stepehsn Auto Co. is building a new concrete one-story garage, one of the most up-to-date in the Valley, containing both service and sales space.

Kingsburg, Cal.—Levi Garrett has sold his interest in the Main St. Garage to Roy Arnold, who becomes a partner with L. G. Hanby, under the name of Hanby & Arnold Motor Co.

Salinas, Cal.—J. L. Clark and Louis Morton have dissolved partnership, Clark taking over the Exide battery storage service station.

Exeter, Cal.—J. O. McKinney has bought the Service Garage from V. L. Conlee.

Santa Clara, Cal.—The Mission Garage has been sold by R. McKinnon from O. A. Metz.

Healdsburg, Cal.—W. G. Hildebrand has opened the Hildebrand Authorized Ford Service Shop.

Yuba City, Cal.—The Lowrey Garage has been bought from Lowrey Brothers by L. R. Robinson and Gene Montana.

Use Motor West

¶ Every Eastern automobile or accessory manufacturer can help his Pacific Coast representative increase his sales by a liberal use of the advertising columns of MOTOR WEST.

¶ Coast dealers and factory representatives should insist on the factory folks giving them the same advertising support in "The Motoring Authority of the Pacific Coast" as is accorded the Eastern and Middle Western dealers and representatives in the motor trade journals published in those sections. Otherwise the dealers and representatives here, who pay their proportionate share of the expense of advertising in the Eastern and Middle Western journals (and incidentally receiving very little benefit from it) are paying for something they do not get.

THINK IT OVER!

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PARAB-O-LIGHT

"The Lens That's Right"

Tested and Approved in California.

The lens that conserves the energy from the storage battery by producing a perfect driving light when used with bulbs of 15 to 20 C. P.

Prices: $3.25 to $4.25 per pair.

THE J. D. FRENCH COMPANY
30-32 DAVIS STREET
PACIFIC COAST DISTRIBUTOR

THE ZORGER LENS COMPANY
CHAMPAIGN, ILL.

SIOUX
Trade Mark Reg. U.S. Pat Office

Sioux Tools have set up a new standard of efficiency in

Removing Bushings, Re-Facing, Re-Seating, Grinding

any and all valves

There is only one best—the "Sioux"

ALBERTSON & CO. Manufacturers, SIOUX CITY, IA.

MODEL 502 TEST SET
Price $25.00 prepaid to you.

We manufacture electric testing, charging and magnetizing instruments for use in garages and service stations.

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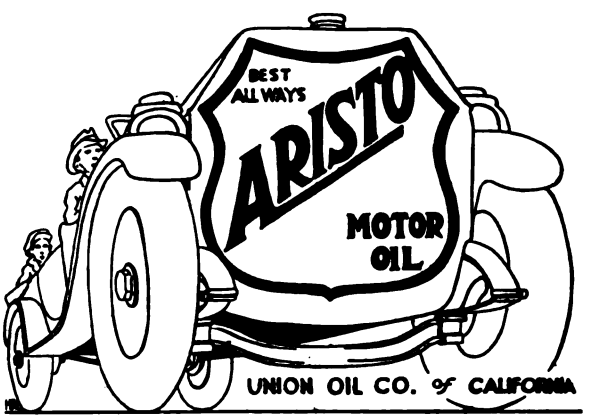

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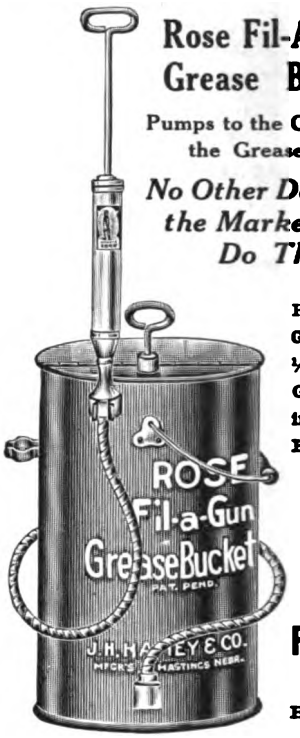
Pumps to the Car or fills the Grease Gun

No Other Device on the Market Will Do This



Holds 25 lbs. Grease. Pumps ¼ lb. to stroke. Grease Gun included with Bucket. List **$12.50**

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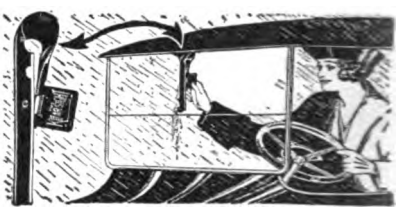

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LATE TRADE NEWS

Motor Wheel Corp. Merger.

The Motor Wheel Corp., with headquarters in Lansing, Mich., is a $10,000,000 merger of the Prudden Wheel Co., Auto Wheel Co., Gier Pressed Steel Co., all of Lansing, and the Wies & Lesh Mfg. Co., which the Prudden Co. has controlled since last September and which is the largest spoke factory in the country. Its plants are at Memphis and Jackson, Tenn. Articles of incorporation, specifying nominal capitalization, have been filed, the boards of directors have approved the merger, and stockholders are to vote soon. When the merger is completed, new common stock will be exchanged for the old.

The tentative officers are: President, Harry F. Harper, president and general manager of the Prudden Co.; vice-president, Drury Porter, president and general manager of the Auto Wheel Co.; secretary-treasurer, B. S. Gier, president and general manager of the Gier Wheel Pressed Steel Co.

The merger means covering the entire field of motor wheel manufacture efficiently and profitably. It is expected the total sales of the present four companies will be increased from about $10,000,000 to about $15,000,000 a year. Duplicating departments will be eliminated. At present, for example, both the Prudden and Auto companies are producing passenger and motor truck wheels of a variety of sizes and designs.

* * *

Baths for Tourists at Brown's.

Roy H. Brown, Columbia Six distributor in Sacramento, Cal., installed eight baths for the convenience of tourists, in building his new sales and service station. This will greatly please those who camp out instead of seeking accommodations in congested hotels.

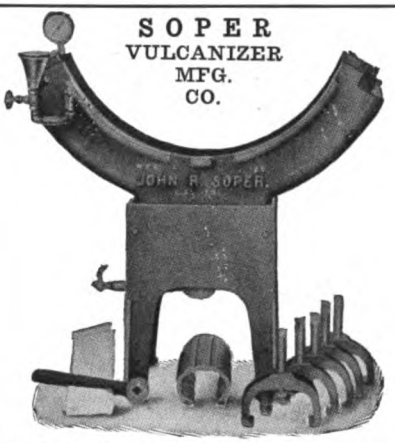
* * *

Coast Tire & Rubber Plant.

Holmes Ives, manager of the newly organized Coast Tire & Rubber Co., Oakland, recently returned from the East, where he placed orders for more than $100,000 worth of machinery for the first unit of the factory.

VULCANIZERS.

SOPER VULCANIZER MFG. CO.



The Last Word in Vulcanizing Machinery
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110 East Eleventh St., Los Angeles, Cal.

TRANSFORMERS.

EMO TRANSFORMERS
Will Increase Power—Add Fuel Mileage—For Automobiles, Aeroplanes, Trucks, Tractors, Motorcycles, Marine and Stationary Engines

EMO TRANSFORMERS transform the ordinary slow, faint spark into a high-tension blue blaze or flame which instantly explodes all the vapors even in the lowest gravity fuel, thereby insuring greatly added power and mileage. This intensive blue-white EMO flash keeps the spark plug points free from carbon, soot and oil. Prevents "bucking" or "loping." Insures easy starting, quicker acceleration, and a sturdy, uniform flow of power at all speeds. Protects the entire ignition system. Save many times their cost in fuel and spark plug economy. One EMO on each plug makes all cylinders pull even. Can be attached by anyone.

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Will Do The Work, or No Pay
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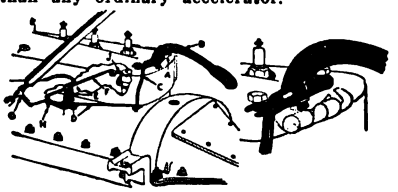
DEMAND
THE
LEMCO
FORD FOOT ACCELERATOR
BECAUSE
It will save you one hour's time in making Installation and cost you no more than any ordinary accelerator.



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Saves 25% to 50% Gasoline, removes carbon, produces motor efficiency and completes lubrication.
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Cleveland Plant is Enlarging.

An addition to the plant of the Cleveland Automobile Co., 200x80 feet, four stories, to be finished about March 15, will give the company a plant 1000x80 feet, containing 320,000 square feet, on a 19 acre site. The company expects to soon reach its planned production of 150 cars daily. Twice as many were turned out in January as in December.

* * *

"America First," Grant Policy.

Checking its foreign business, Grant Motor Car Corp., Cleveland, found that to meet the demand would require its output for the year. No new foreign accounts will be opened, it is announced by George S. Waite, director of sales. The sales policy will be "America first." An order for 400 trucks to go to England has been refused. Extensive sales have been made there, in the Scandinavian peninsula, India, Japan and Straits Settlement. For foreign use the right hand drive, and both distributor and magneto, are furnished. The Grant will be displayed at the Stockholm show in March.

* * *

Goodyear Housing Plan Features.

Among the large industrial projects in the United States, that of The Goodyear Tire & Rubber Co. ranks as one of the greatest. The company has provided 1200 fine homes for its employees, housing about 5,000 people. Not content with aiding them to purchase these houses at reasonable prices, and installing a bus line, a campaign for beautification of Goodyear Heights has been started. Home owners will get free advice from an expert landscape engineer and all flowers and shrubs will be sold at wholesale prices. Each owner will receive a drawing giving the landscape engineer's idea of how the property should be beautified and just what kind of flowers and shrubbery should be used for beautification.

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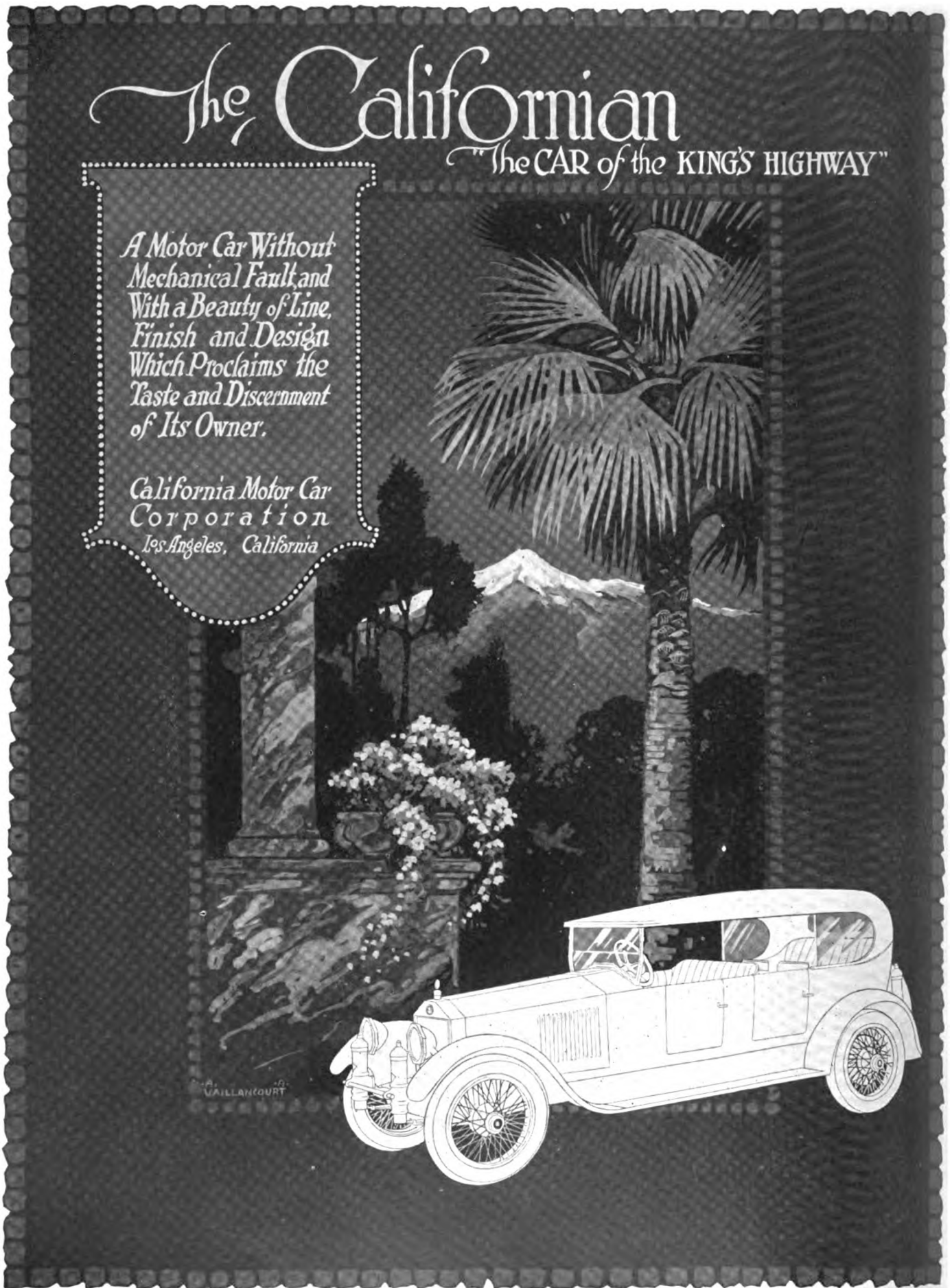

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per set of 3

Insist on genuine
Advance Cork
Insert—sold only
in the *red* and
black box.

WHY EVERY FORD SHOULD HAVE ADVANCE CORK INSERT LINING

Every Ford should have Advance Cork Insert lining because it takes the rattle, jar and chatter out of the Ford—makes it run smoothly and stop quickly, quietly and positively.

It lengthens the life of the Ford and makes its use a constant pleasure.

No other lining can do the work of Advance Cork Insert in the Ford.

Heat, oil and wear gives ordinary linings a hard-slick-glassy surface. This slick surface hasn't any grip. It grabs and slips. This grabbing and slipping makes the car jump, jerk and chatter; hard to stop and disagreeable to drive. It shortens the life of the car, racks its rear end—causes expensive repairs.

That's why every Ford that runs should be equipped with Advance Cork Insert linings.

It makes this great car greater and it costs less in the long run.

One set outwears three sets of ordinary lining.

Advance Automobile Accessories Corporation, 56 East Randolph Street Chicago

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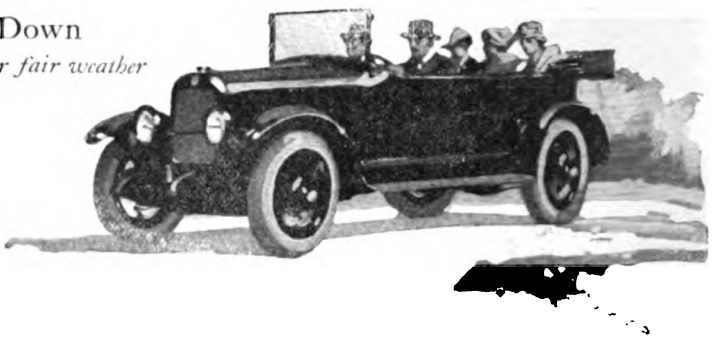
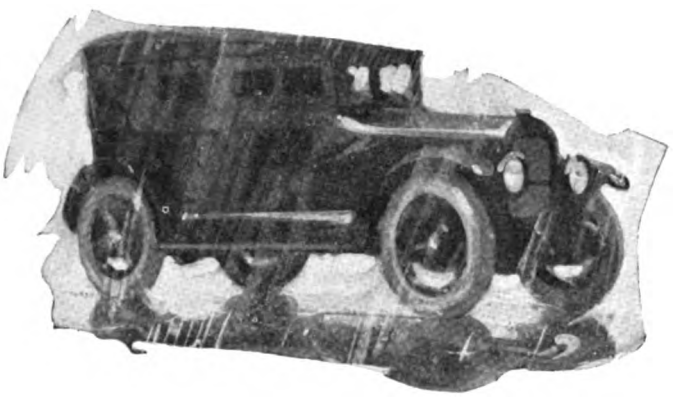
for fair weather



Top Up
when winds blow

DORT

Quality Goes Clear Through



Top and Curtains Up
when the storm beats down

The well-known Dort factory policy of intelligent and energetic co-operation with distributors has been extended in turn by the distributors themselves to their dealer organizations.

Dort distributors are interested first, in the selection of able, responsive dealers; and secondly, in making these dealers permanent connections.

They realize clearly the need for helping their dealers to build up profitable businesses.

They know that every step they take to strengthen their dealers reacts surely and certainly in strengthening themselves.

And largely because of this co-operative spirit there has grown up thruout the entire automobile industry a conviction that the Dort dealership ranks among the most desirable to be had.

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Flint, Mich.

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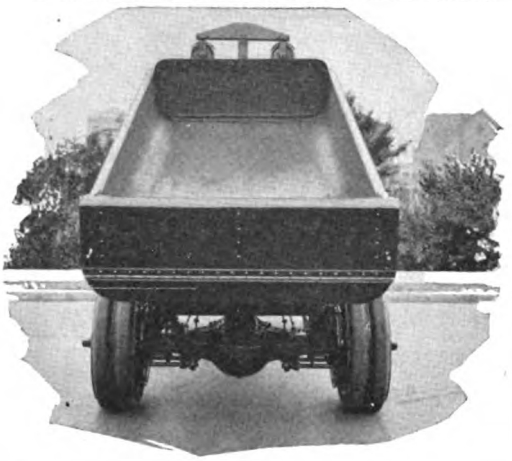
Standard
DETROIT USA

SHIP BY TRUCK AND VOTE FOR GOOD ROADS



STAYING STANDARD

INVESTING in a Motor Truck is like Investing in anything else—it's the same Vital Question of Profit or no Profit.

The Profitable Truck—it goes without saying — is the Quality Truck — the Truck that is Built just Once, and Built to Stay.

Time and Use alone can bring out this Argument of Arguments in a Motor Truck—to prove either the Wisdom or Mistake in a Motor Truck Investment.

Merely to say that STANDARD Trucks are Quality Trucks and Profitable Trucks would carry little Weight unless there were Facts to Prove it.

But it MEANS Something when we say that STANDARD Motor Trucks are Quality Trucks and Profitable Trucks —because STANDARDS have been Built for Ten Years—and the First Trucks Built are Still Running.

Dealers Write for Territory

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Detroit, Mich.

1, 1½, 2½, 3½ and 5 Ton Capacities and Farm Special on Pneumatics.

"All the name implies"

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The Hewitt Rubber Company has no monopoly on the tire building brains of America, nor on the highest grade materials that can enter into tire construction, but the Hewitt Rubber Company has set an inflexible ideal and that ideal demands highest scientific efficiency, and only those materials which critical tests prove to be most desirable.

The result is Hewitt Tires. They are as good as the Hewitt Rubber Co. or any other tire manufacturer can produce, so when you buy a Hewitt Tire your satisfaction has been definitely predetermined. You expect maximum mileage and you can rest assured you'll get it.

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Northern California Distributors

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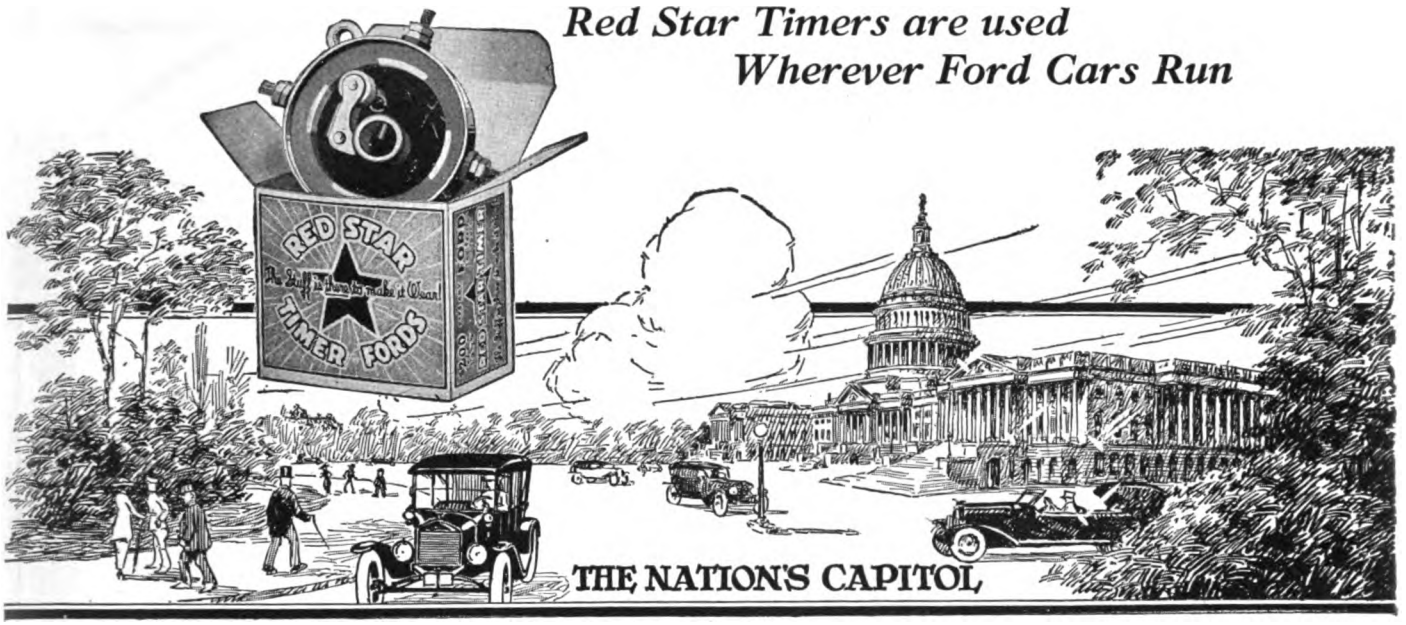


FROM coast to coast — border to border — Red Star Timer is the first choice of Ford owners.

A Red Star Timer puts new life into a Ford motor, makes it easy to start, gives it smooth power and pep: and lasts longer than other timers.

Red Star is made as a timer should be—from the highest quality materials—with accurate, careful workmanship

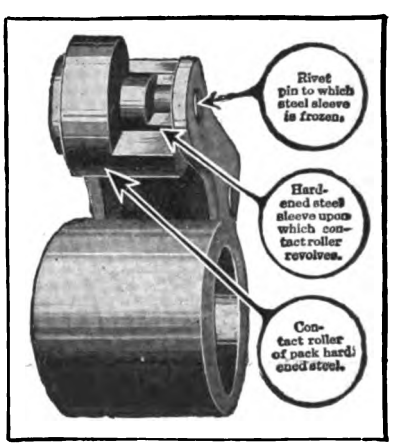
The special Red Star roller bearing roller, the extra quality of fibre used in the race, the high grade steel segments, the accurate assembling and finished workmanship are found only in Red Star Timers.

Get rid of your motor trouble—put on a Red Star Timer today. If your dealer hasn't them —remit $2 with your dealer's name, and we will see that you get a Red Star.

DEALERS—Red Stars are the fastest selling Ford timer. Get a Red Star display in your window. It brings in the business. Write us for special sign. Your jobber has Red Stars. If he doesn't quote you promptly, write us.

Auto Components, Inc.
56 E. Randolph St. - Chicago

Red Star Timer
FOR FORD CARS·TRUCKS AND TRACTORS



Study the construction of the Red Star Roller

$2.00 in United States
In Canada, $2.75

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Make Money

The Extra Tested quality of Racine Multi-Mile Cord and Country Road Fabric Tires has won them national popularity. That popularity brings repeat business. Repeat business means dealer permanence.

Nationally Advertised

Racine dealers reap constant money-making benefit from the good will given Racine Tires by car owners everywhere.

Plus this good will, Racine dealers are backed by a nation-wide advertising campaign reaching the small towns as well as the big cities. Racine dealer helps are real sales-makers.

Racine distributors are located to give you every help and service.

The Racine Line includes Racine Inner Tubes and Supreme Tire Sundries—all Extra Tested.

Write for full details—money-making facts.

RACINE RUBBER COMPANY
RACINE, WIS.

RACINE TIRES

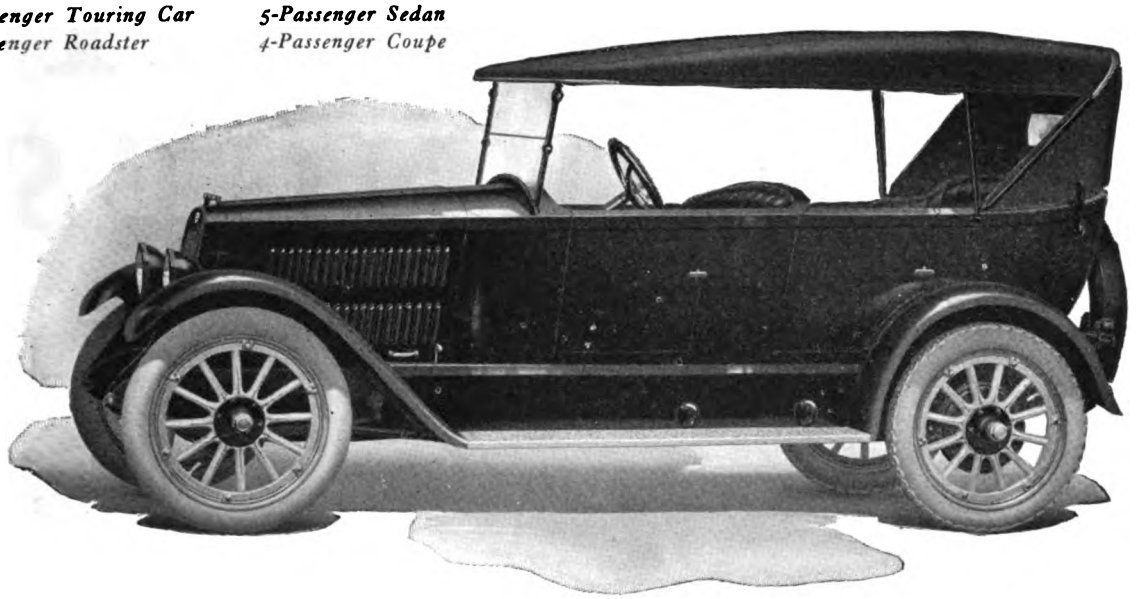
MULTI-MILE CORD &
COUNTRY ROAD FABRIC

EXTRA TESTED

Digitized by Google

5-Passenger Touring Car
3-Passenger Roadster

5-Passenger Sedan
4-Passenger Coupe



For Men Who Seek Endurance and Style

This new Mitchell is not merely a new model. It establishes a new standard. It is the result of years of experience and costly investments in factory efficiency.

Many changes are due to evolution—but many bring entirely new ideas. Mechanically the new Mitchell is an evolution, resulting from yearly improvements.

But its style brings a revolution in design—a logical alignment of those lines of motion already worked out in many particulars, but never completely.

It has been Mitchell's opportunity to add the finishing touches, the final distinctions.

First of its type

This is the first car of this new-day type, for we started its design two years ago. And even before, all during war-time, when our factory made trucks, our engineers and designers worked on improvements.

This is the outcome of the new Mitchell organization. It is the fruition of the great minds assembled here during the past three years.

In this new Mitchell, people see the highest ideals in a Six. Never before has a new-model Six introduced so many advances, nor such a happy combination of beauty and utility.

There is hardly a part or detail which doesn't show conspicuous improvement.

To demonstrate a new Mitchell is a pleasure. There are so many over-values to point out.

Built for the future

As every dealer knows, these are easy times to sell cars. But such a period will not always last. And we, as makers, appreciate it.

We are building this new Mitchell for the long pull. In a year or two, when selling competition brings new difficulties, tens of thousands of Mitchells will be running, every car spreading the idea of Mitchell quality.

Wise dealers are looking ahead. And those who do, appreciate the advantages of the new Mitchell. They see in this car a permanent satisfaction, a growing demand.

Many dealers saw the new Mitchell at the Shows. And deliveries are acquainting the public.

While our dealer distribution is practically completed, there are a few choice territories open. Investigation might prove that that was an interesting Mitchell opportunity for you.

RACINE Mitchell WISCONSIN U.S.A.

MITCHELL MOTORS CO., Inc.
Racine, Wisconsin

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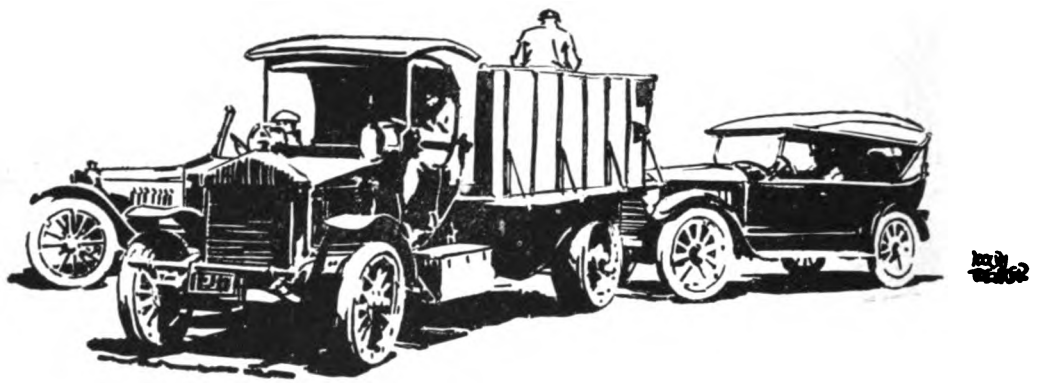
SINCLAIR ANNOUNCES



The LAW of LUBRICATION

FOR EVERY MACHINE, of EVERY DEGREE of WEAR there is A SCIENTIFIC SINCLAIR OIL to SUIT its SPEED AND CONSERVE its POWER.

THE first scientific and authoritative standard of practice for automotive lubrication—Announced to the oil users of the world by THE SINCLAIR ADVERTISING CAMPAIGN, 1920.

Digitized by Google

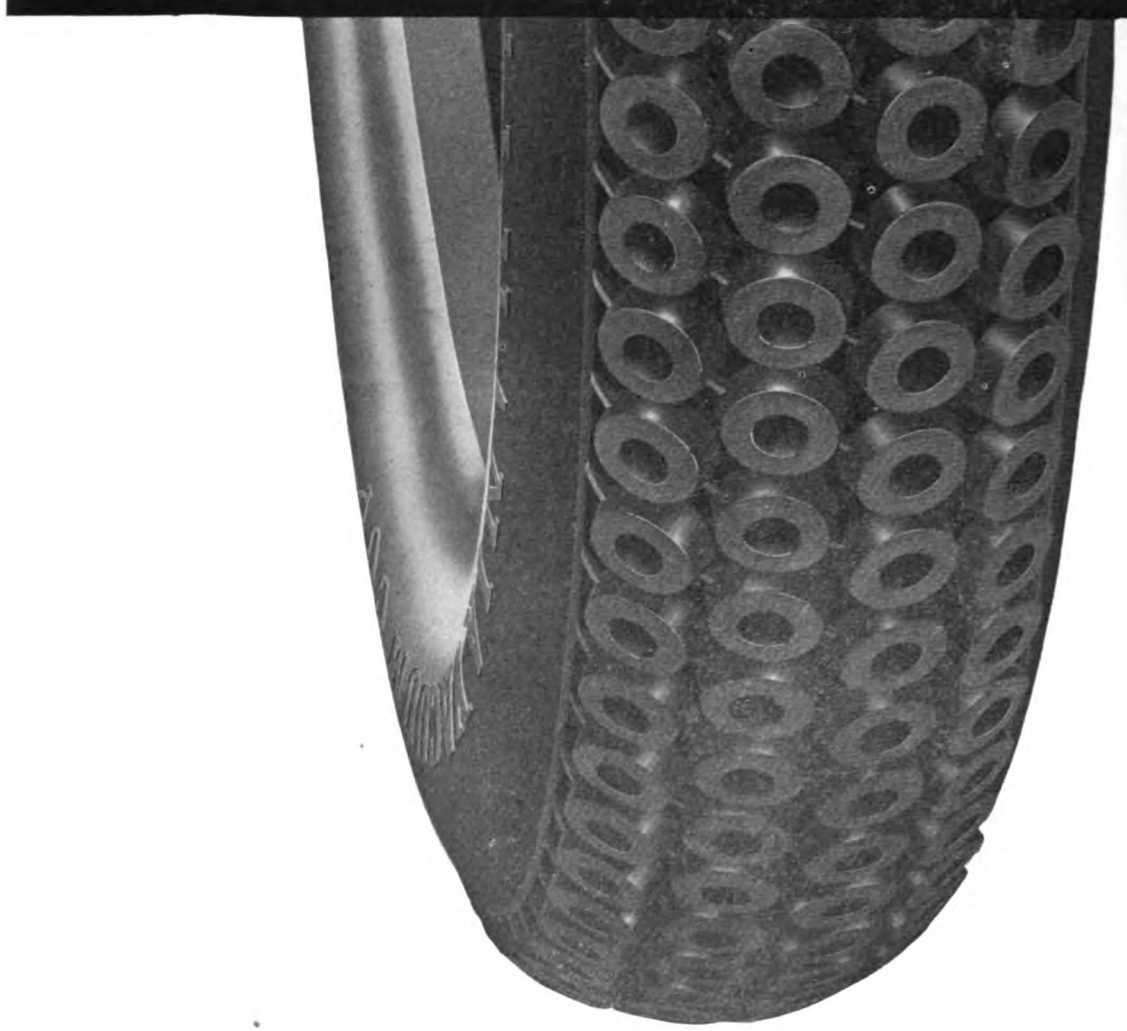
SINCLAIR dealers will be shown how to apply the Law of Lubrication to the betterment and enlargement of their business. Write for the Sinclair Recommendation Index—based on the Sinclair Law. It revolutionizes the retail oil business.

SINCLAIR REFINING COMPANY, CHICAGO

Atlanta	Denver	Louisville	Norfolk
Brockton	Detroit	Minneapolis	Omaha
Buffalo	Houston	Newark	Rock Island
Cleveland	Kansas City	New Orleans	Tulsa
			Wichita

Digitized by Google

Pennsylvania VACUUM CUP CORD TIRES



The Vacuum Cup Tread Is GUARANTEED not to skid on wet, slippery pavements

Pennsylvania Vacuum Cup Cord Tires, Vacuum Cup Fabric Tires, Channel Tread Cord Tires, and Auto Tubes "Ton Tested" are sold at STANDARDIZED NET prices, uniform throughout the United States.

Adjustment basis—per warranty tag attached to each casing:

Vacuum Cup Fabric Tires	6,000 miles
Vacuum Cup Cord Tires	9,000 miles
Channel Tread Cord Tires	9,000 miles

PENNSYLVANIA RUBBER COMPANY, Jeannette, Pa.

Direct Factory Branches and Service Agencies Throughout the United States and Canada

Export Dept., Woolworth Bldg., New York, N. Y.

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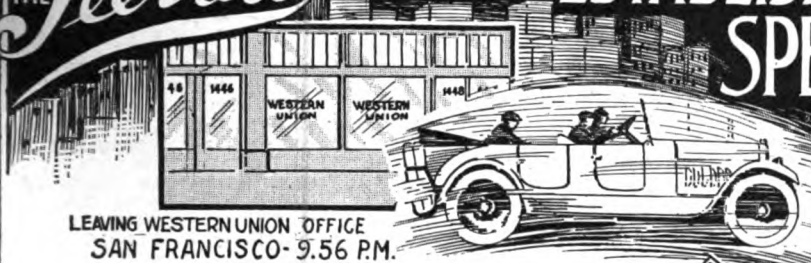
FLYING · THROUGH the NIGHT · LIKE · A · GREAT · METEOR

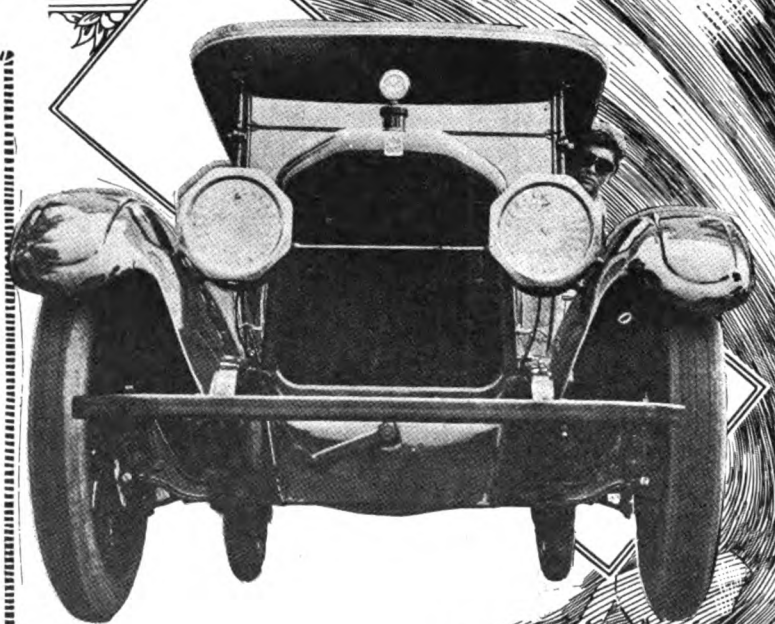
THE Peerless EIGHT, TWO-POWER RANGE ESTABLISHES NEW RECORD for SPEED and ENDURANCE



LEAVING WESTERN UNION OFFICE
SAN FRANCISCO - 9.56 P.M.

423 MILES

9 HRS. 20 Min.



PERFECT PERFORMANCE
of the Powerful PEERLESS Two Power Range Eight Stock Car, fully equipped wins another victory for it's makers and sets a new Road Record of 9 hours and 20 Minutes from San Francisco to Los Angeles

OVER HUNDREDS OF MILES
of Mountain and Valley roads at an average speed of 46.07 miles per hour, the PEERLESS shows it's ability to deliver speed and at the same time stand the Acid Test of Endurance

PROVES
that in addition to Beauty and Grace of line, that the PEERLESS Motor turning over at the rate of 3000 rev. per minute for a period of 9 hours and 20 minutes without a miss, is the very last word in Motor Construction and Development

PEERLESS TWO POWER RANGE
stock cars have the qualities embraced only in thoroughbreds and win with good margins whether it be Hill Climbs, Economy Runs or Road Records Against Time

MASTERPIECE
THAT'S IT.....The PEERLESS is a masterpiece and the name is all it implies.....
The PEERLESS in 1918 won the Yosemite Economy Run, Class A, and in 1919 won the Rim of the World Hill Climb, San Bernardino, Cal.

FRISCO TO L.A.
The PEERLESS is Victor Again and the Road Record from L.A. to Frisco is 9 hr. 20 min.

SMITH BROTHERS

DISTRIBUTORS
1616-24 So. FIGUEROA ST.
LOS ANGELES

Thorpe Adv. L.A.

FINISH WESTERN UNION OFFICE
LOS ANGELES - 7.16 A.M.

Digitized by Google

IT IS a fact that a preponderance of the wire wheels you see, are Hayes Wire Wheels.

This preference embraces owners of *all* types of cars. It extends from the cities to the towns, and on to the hamlets and the farms.

It is equally pronounced among motor car manufacturers. The beauty and the smartness which the Hayes imparts to any car, partially account for its dominance in public favor.

But there are other reasons. For example, structural superiorities which make the Hayes stronger and safer; its easier riding; its greater economy; the greater ease with which a tire is changed.

More and more people are learning how much these Hayes factors contribute to the comfort and satisfaction they derive from their cars, and the volume of Hayes preference increases accordingly.

Wire Wheel Division **Hayes Wheel Company** *Jackson, Michigan*

World's Largest Builders of Wheels—Wire :: Wood :: Steel

SALES AND SERVICE STATIONS:

HAYES WIRE WHEEL SALES CORP.
842 7th Ave. & 146 W. 55th St., N. Y. City
EVANS & LAWRIE CO.
708-10 Beacon St., Boston, Mass.
SAMUEL SCOTT
2038 Ranstead St., Philadelphia, Pa.
MILLER & WOODWARD
3751 Bigelow Blvd., Pittsburgh, Pa.
BRIGMAN MOTORS COMPANY
491 Whitehall St., Atlanta, Ga.

SIGGINS SALES COMPANY
106-8 E. Milwaukee Ave., Detroit, Mich.
CHICAGO WHEEL & RIM CO.
2010-12 Wabash Ave., Chicago, Ill.
AUTO-MARINE SERVICE CO.
1027 Nicollet Ave., Minneapolis, Minn.
INTERSTATE AUTO COMPANY
206-8 E. Superior St., Duluth, Minn.

MOTORS EQUIPMENT & TRACTOR CO.
1310 S. Grand Ave., Los Angeles, Cal.
H. V. & C. H. CARTER
724 Van Ness Ave., San Francisco, Cal.
ELDREDGE BUICK COMPANY
Seattle, Wash.
AUTOMOTIVE SUPPLY COMPANY
1558 Broadway, Denver, Colo.
THE THREE CAPTAINS CO.
700 S. Ervay St., Dallas, Tex.

HAYES Wheel Company

Digitized by Google

Spring—

Supported by Strength that Guarantees Long Mileage Life

The sprightly spring of the robust Gillette Non-Skid tread takes the sharp sting out of jolts and puts joy into motoring.

The Gillette Chilled Rubber Process toughens rubber so that it can't be cut to ribbons or deadened by read strain or shock—

Abolishes tread and fabric separation;

Reduces sand blisters and blow-outs to a next-to-nothingness;

Gives you a Non-Skid Tire of greatest comfort, safety and mileage worth.

Put one on that machine of yours and it won't be long before the other three wheels will be Gillette equipped.

Dealers Address Our General Sales Offices

THE GILLETTE RUBBER CO.

Factory, Eau Claire, Wis.
General Sales Office
1834 Broadway, New York

Gillette
TIRES AND TUBES

A BEAR FOR WEAR

Digitized by Google

Attention — DEALERS!

The Samson Tire is now among the fast sellers. It is a wonder on reorders. Samsom sales are growing like a weed.

Do *You* want to break into the profits that dealers are making on this live seller?

Write today!

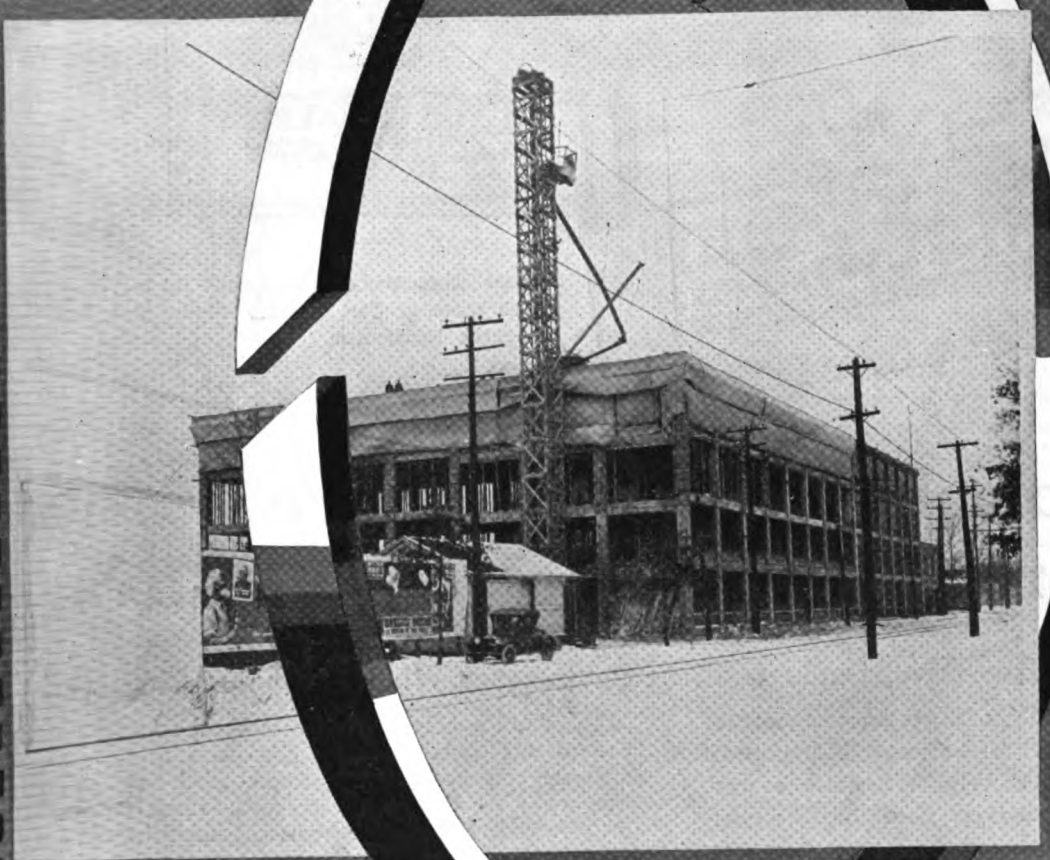
SAMSON TIRE AND RUBBER CORPORATION

Executive and General Sales Offices: **333 West Pico Street :: Los Angeles**

Digitized by Google

QUALITY SNAP RINGS

An ever-increasing expansion means an ever-increasing Service



"MORE THAN A MILLION A MONTH"

THE Piston RING COMPANY

106 SANFORD ST. MUSKEGON, MICH.

Digitized by Google

These advertisements appeared in the Feb. 28th issue of The Literary Digest and The Country Gentleman.

The Nationally Advertised Wire Wheels For Ford and Chevrolet 490 Cars

Here are the first two advetrisements of the Dayton Wire Wheel Campaign for 1920

Study them carefully. They carry a worthwhile message for small car owners. They present the facts about Dayton Wire Wheels in a way that will vitally interest every Ford and Chevrolet 490 owner in your community.

If you are a Dayton dealer, detailed announcement of our complete advertising plans for 1920 will reach you shortly. If you do not sell Daytons, write today for full particulars about these better-quality wheels. Our proposition will surely interest you.

THE DAYTON WIRE WHEEL COMPANY
DAYTON, OHIO

MADE UNDER LICENSE
Dayton Wire Wheels
QUICK DETACHABLE

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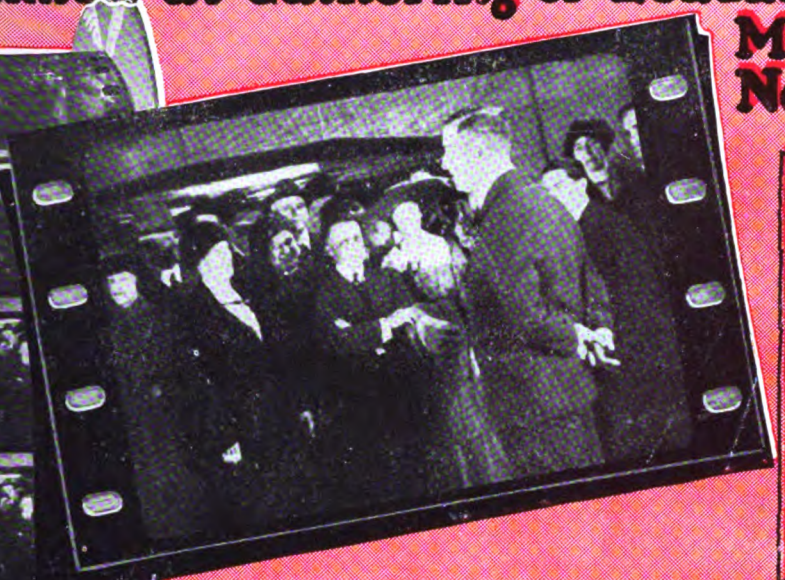
Filmed at Gathering of Leading Jobbers in Marietta, Ohio, Nov. 8-12, 1919



JOBBERS PRESENT:

Representatives of G. Norman Baughman Co., Tampa, Fla.; Canadian Fairbanks-Morse Co., Ltd., Montreal, Quebec; Carolina Tire & Accessory Co., Inc., Columbia, S. C.; Gaul, Derr & Shearer Co., Philadelphia, Pa.; Ferris-Dunlap Auto Supply Co., Dallas, Tex.; I. J. Cooper Rubber Co., Cincinnati, O.; Carolinas Auto Supply House, Charlotte, N. C.; Pennsylvania Rubber & Supply Co., Oil City, Pa.; Shadboldt & Boyd Iron Co., Milwaukee, Wis.; Ozburn-Abston & Co., Memphis, Tenn.; Robison Heavy Hdw. Co., St. Joseph, Mo.; Front-Market Motor Supply Co., Harrisburg, Pa.; Pennsylvania Rubber & Supply Co., Cleveland, O.; Motor Car Equipment Co., New York, N. Y.; Fred Campbell Auto Supply Co., St. Louis, Mo.

Just as Robinson *of Montreal* Told the Jobbers

After SE-MENT-OL had been subjected to a series of conclusive tests before a representative gathering of automotive equipment jobbers in Marietta, Prescott W. Robinson of Montreal, Quebec, sounded the keynote of the meeting when he said: "Now, gentlemen, I am sure that after watching all these tests, you feel as I do—that SE-MENT-OL has proved itself to be, beyond argument, the radiator repairer that **does the work,** quickly and thoroughly. I feel that it is the kind of goods we all want to push—goods that we can stand back of to the limit."

Before this critical audience of jobbers SE-MENT-OL was tested, not only for rapidity in action, but for permanence of repair, and absence of any clogging or injurious effects. The demonstration was then climaxed by the complete renovation of a dilapidated car with NORWESCO products, making it new-looking again.

If the jobber **you** deal with was "among those present," he will tell you not only to **stock** SE-MENT-OL but to **concentrate** on it.

The demonstration before the jobbers was filmed, and the film will be shown throughout the country through the courtesy of jobbers.

SE-MENT-OL DISPLAY STAND FREE

SE-MENT-OL Display Stand FREE

This Steel Display Stand, lithographed in attractive colors, free with two dozen cans of Se-Ment-Ol. A big sales booster.

The Northwestern Chemical Co.

2303 State St., Mariette, Ohio, U.S.A.

Canadian Factory: Montreal

SE-MENT-OL

(THE ORIGINAL)

"Finds the Leak and Fixes It"

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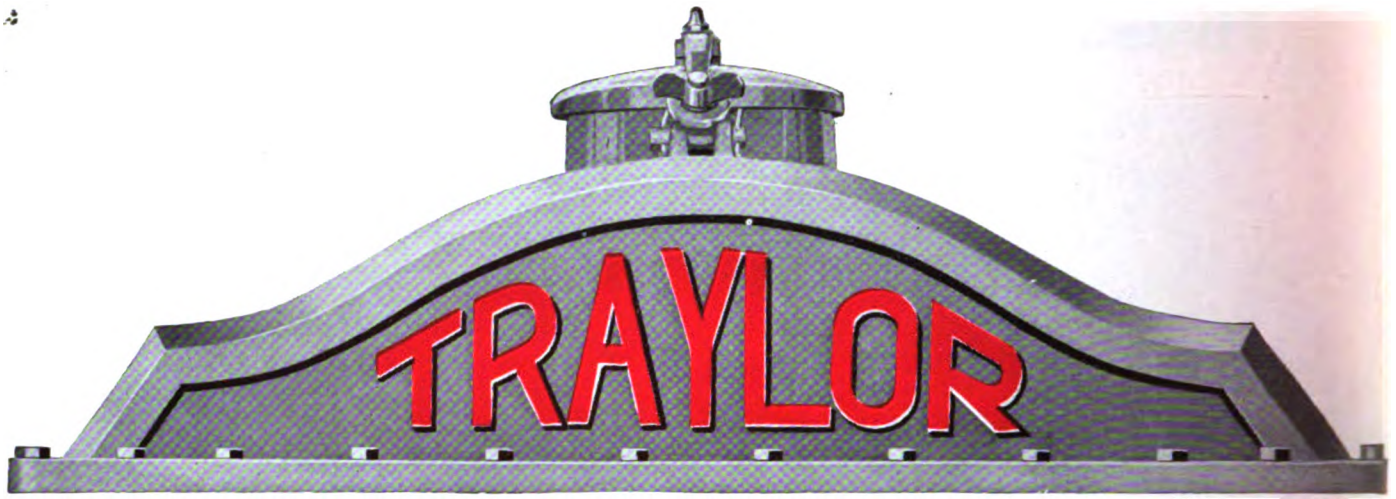


1-ton, 1½-ton, 2½-ton, 3½-ton

Four models—meet every truck requirement

Every truck prospect is a TRAYLOR prospect—the merchant with small parcels to deliver, the farmer, baker, milk dealer, florist, drayman and the prospect who handles big tonnage.

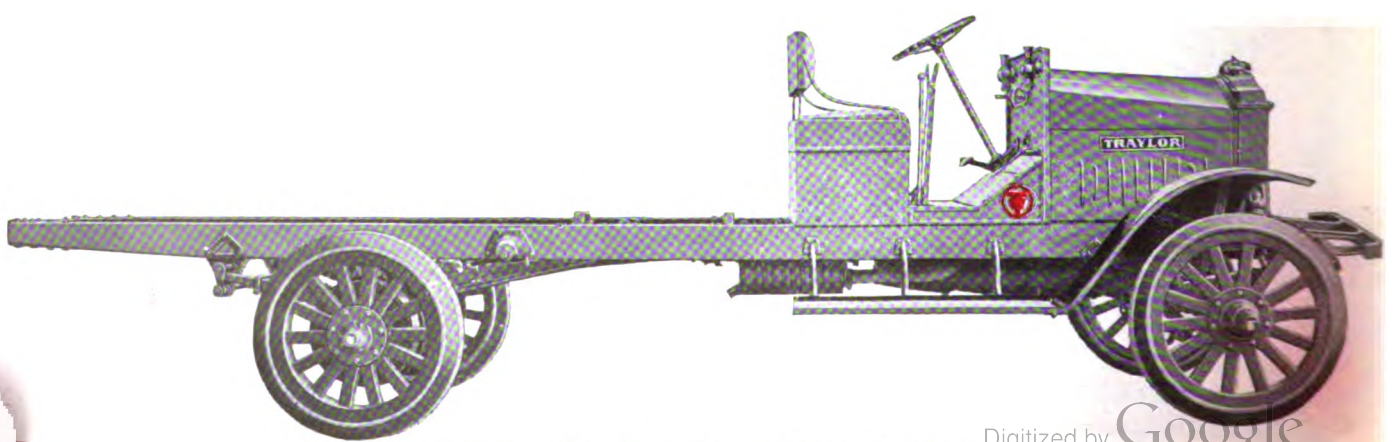
No missionary work on the part of the dealer's sales force is wasted—every truck requirement can be filled by the four TRAYLOR Truck models.

And back of each model is the reputation of the Traylor Engineering & Manufacturing Company, who for many years have stood in the front rank of manufacturing and engineering achievements.

Good reliable dealers who want to build a permanent profitable business are wanted. Write or wire for exclusive territory.

Traylor Engineering & Manufacturing Co.

Truck and Tractor Division **Cornwells, Pa.**



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Native collecting rubber "milk" or latex.

Amazon Quality Boosts Sales

The goodness of upper Amazon River rubber vigorously asserts itself in the long life of Amazon tires.

Buyers of Amazon tires become more than converts to their use—they become enthusiastic boosters.

This accounts for the ease with which Amazon dealers make Amazon sales. It explains the success of Amazon dealers in all sections of the country.

An Amazon sales franchise is a highly prized asset.

DISTRIBUTORS: We have increased our production and are opening new territory.

DEALERS: If Amazon tires are not sold in your town write us immediately for name of distributor.

THE AMAZON RUBBER COMPANY
AKRON, OHIO

New York Office: 269 *Amsterdam Avenue, at 72nd Street*

AMAZON

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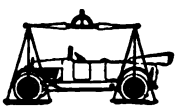
The advertisement reproduced on this page is now running in Literary Digest, Collier's Weekly and a long list of other national publications.

What we mean when we say the "Balanced Six"



Touring Cars
Roadsters
Sedans

Balance is the clearest indication of mechanical refinement. It does not happen by accident. It must be scientifically *worked out*—accurately and painstakingly.

Leadership in *balanced* construction is the secret and the explanation of American Six success.

By a scientific distribution of weight in the American Balanced Six, the load is divided over each of the four wheels *almost to a fraction of a pound*. The chassis is not underweighted at the rear nor overweighted at the front. Each wheel carries a *proportionate* share of the burden.

The effect on the riding qualities of this Balanced Six is little short of amazing. Behind its wheel rough roads have no terrors for you. Sharp turns do not affright you. There is no slip—no side sway going around corners. Your car holds the road and at all speeds.

That is what we mean when we say the "Balanced Six."

The American Balanced Six is the *first instance* in which the principle of balance has been correctly applied in the construction of a car of light weight.

Every mile you cover in the American Six is a mile of added joy. You fairly *smile the miles away*.

AMERICAN MOTORS CORPORATION
Factories: Plainfield N. J., and Greensboro, N. C.

The Balanced Six
AMERICAN
Miles of Smiles

Digitized by Google

Its Balanced Construction Makes the American Easy to Sell

"—leadership in balanced construction."

That is the big truth that has jumped demands for the American Balanced Six to a point where we are forced to increase our production over 400 per cent in 1920.

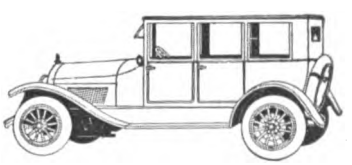
It is the fact that has forced us to double the size of our factories at Plainfield, N. J., and to establish a second great plant at Greensboro, N. C., where the American will be built for distribution in the South alone.

Finally, it is the real reason why American dealers no sooner receive an allotment of cars than they get on the wire for more—more!

From coast to coast the Nation has put its stamp of approval on the Balanced Six idea—as it is embodied exclusively in the construction of the American Six.

American leadership in balanced construction has made the American dealer franchise worth money, today. And its value is increasing rapidly.

You will find it well worth investigation—*now*.



American
Sedan
Sextette

AMERICAN MOTORS CORPORATION
Factories: Plainfield, N. J., and Greensboro, N. C.

The Balanced Six

AMERICAN

Miles of Smiles

Digitized by Google

New Principle Saves Labor

PATENTED
APRIL 13, 1909 MAY 21, 1912
OCT. 22, 1918

Sioux Valve Grinder

A STEADY turn of the handle in one direction, gives the valve the reciprocating or forward and back movement, which is absolutely necessary to perfect valve grinding. At the same time it automatically advances the valve periodically on its seat by alternating a full turn in one direction with a three-quarter turn in the opposite direction. Thus it gradually completes the circle and ensures an even grind, which means a perfect contact of all parts of the valve with all parts of the seat.

Does a perfect job in double quick time. Has five interchangeable points —will fit any valve.

Ball Bearings Throughout

Makes it very easy running. Workmanship and material guaranteed.

Price Complete, $7.00

It will pay you to investigate.

All Live Jobbers Sell Them

ALBERTSON & CO.
Sioux City,
Iowa

THE SIOUX WAY

Trade Mark Reg U.S. Pat Office

Digitized by Google

Ready for Shipment under Private Brand

"provided the tube itself is O. K."

GO-AHEAD JOBBERS THROUGHout the country have succeeded in building up quite a trade in TUBES under their own private brand.

This is a sound merchandizing device—good business and good advertising—provided the tube itself is O. K.

HARDMAN Celebrated INNER TUBES, Red and Gray, possess in an unrivaled measure the service character essential to popularity. *'Old as the Automobile,'* they owe their unblemished reputation to their steadily sustained quality. Under private brand they make as many conquests.

CORRESPONDENCE INVITED

HARDMAN RUBBER CORPORATION

Executive Offices: 9 East 40th Street, New York City

Chicago Branch: 1712 So. Michigan Avenue *Factories:* New Brunswick, N. J.

NOTE: Hardman Tubes, both red and grey, are made of FULL FLOATING STOCK

Digitized by Google

Stability

TRANSPORT TRUCK success is the logical growth of a business founded on the principles of permanency. The purpose behind every Transport Truck is satisfaction of a very high order to users now, and repeat orders in the years to come.

It is strict adherence to this principle that accounts for a demand making necessary an expansion to triple our output in 1920.

Transport Truck Company
Mount Pleasant, Michigan

TRANSPORT

A trademark that insures a new standard of truck service

TRANSPORT TRUCKS
HONEST VALUE. ALL WAYS.
MT. PLEASANT, MICHIGAN, U.S.A.

Digitized by Google

New Values

THE resources of a factory with the latest truck building equipment, and our long experience enable us to excel ordinary construction in many points. Chief of these are *added* durability—*added* ease of handling—and an accuracy of parts that make the Transport pre-eminently The Frictionless Truck.

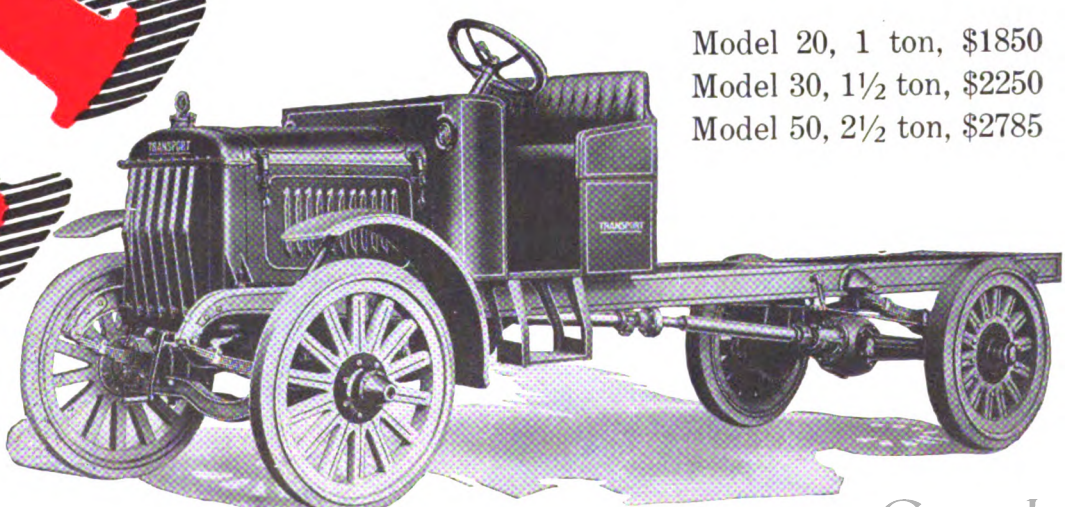
Transport Truck Company
Mount Pleasant, Michigan

INTERNAL GEAR DRIVE

TRUCKS

The Frictionless Truck
(3 Models)

Model 20, 1 ton, $1850
Model 30, 1½ ton, $2250
Model 50, 2½ ton, $2785



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The Standard Oil Co., of Nebraska, has just purchased its second fleet of Patriot Trucks. Some time ago after a careful investigation of the performance of the leading makes of trucks and the service rendered on them, Standard Oil bought six Patriots.

The work of these six Patriots proved so satisfactory that the company placed an order for immediate delivery of twenty-five more Patriots. There's just one way to get an order like that—**sell a better truck and back it with better service.**

Surely Patriot is the kind of truck you want to sell.

If you are not represented in your territory, wire or write for our proposition.

HEBB MOTOR CO., Manufacturers

1387 P Street :: Lincoln, Neb.

Revere Model	Lincoln Model	Washington Model
1500 to 2500 lbs. Capacity	3000 to 5000 lbs. Capacity	5000 to 7500 lbs. Capacity

PATRIOT

MOTOR TRUCKS

Digitized by Google

Stanwood is the big word in tire mileage.

Service of an advanced character—*exceptionally long, unusually care free*—rendering all ruling standards null and void.

VISION and TIRE TALENT are the main constructive forces back of STANWOOD TIRES, the Cord, the Fabric, the Truck Pneumatic.

Stanwood Rubber Company, Inc.

Executive Offices:
9 East Fortieth Street, New York City
Chicago Branch: 1712 So. Michigan Ave.
Plant: Elizabeth, N. J.

NOTE: DISTRIBUTORS are invited to investigate Stanwood products —Tires, Tubes, Repair Materials.

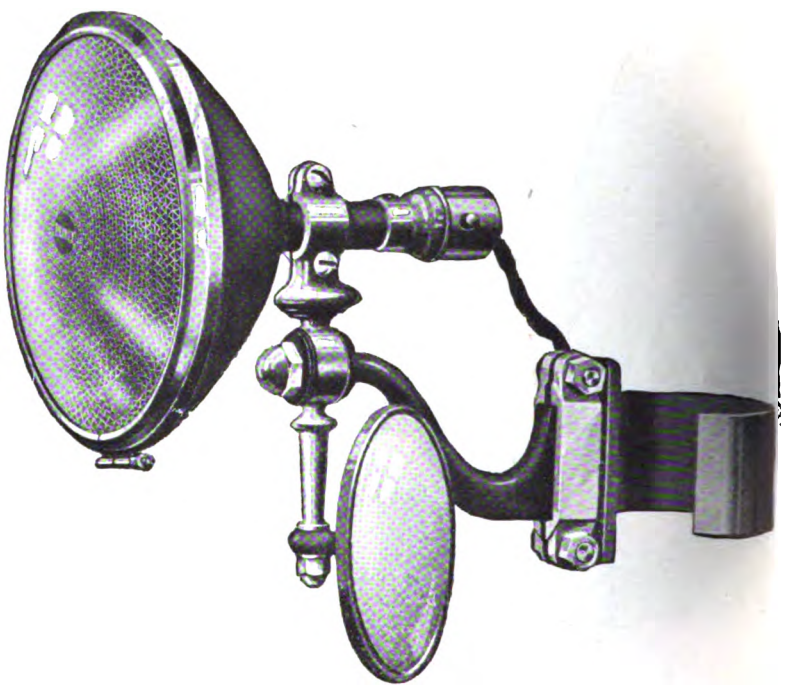
© 1920

Digitized by Google

RAYDEX

The Aristocrat of Spotlights

The finest, handsomest spotlight made. Equipped with the Raydex Glassless Glareless Lens which throws a clear penetrating shaft of light ***without glare.*** Graceful, rich and rattleproof. Built entirely of silver, aluminum and brass. Universal bracket fits any car.



Raydex Shaftlight

Perfect Light— Legal Everywhere

A lens made entirely of highly polished metal. Each lens contains more than 9000 reflectors which concentrate and intensify the beam. ***No glare.*** No absorption or diffusion of light. Legal in every state.

Distributors— Dealers!

Sale and installation of Raydex Products offer what is probably ***the best money-making opportunity*** now open. Wire, write or phone for full particulars of our exceptional method of sales and advertising cooperation. It has interested every one who has heard its details. ***It will interest you!***

Raydex Glassless Lens

RAYDEX MANUFACTURING CO.
BRACKENRIDGE, PA.

Sales Department
Charles F. U. Kelly, Inc., 1834 Broadway, New York, N. Y.

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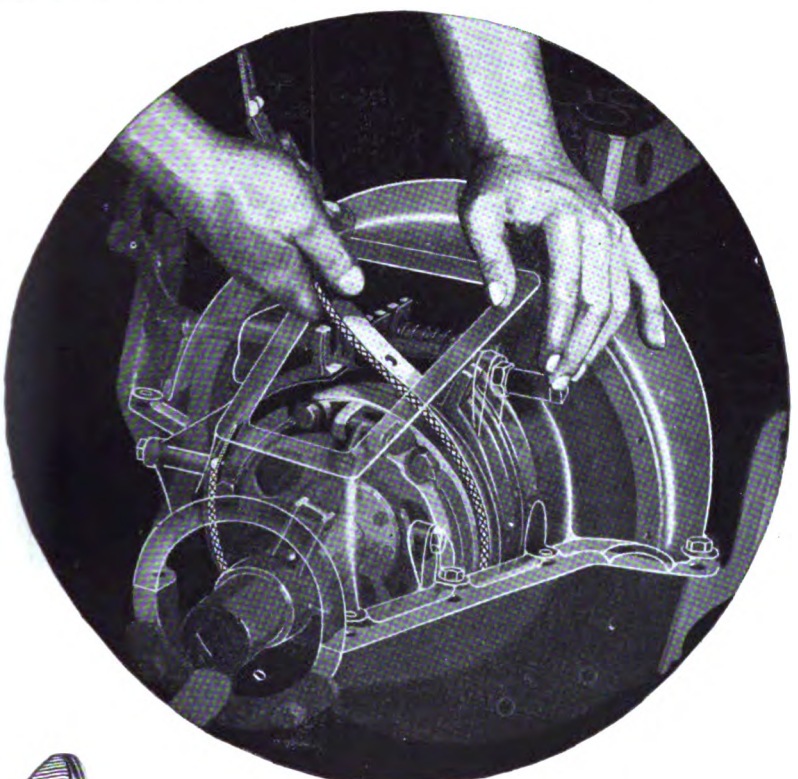
RAYDEX



A Time and Trouble Saver That All Ford Owners Need And Want

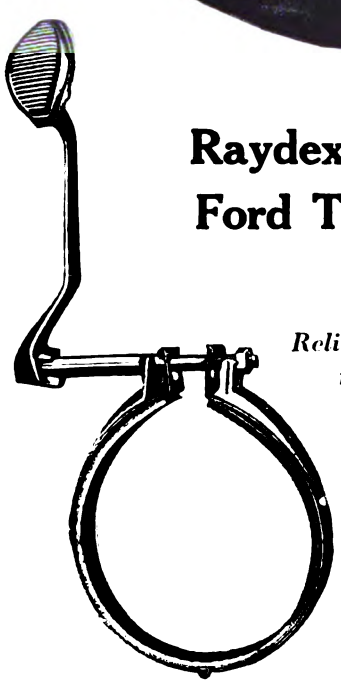
Raydex Reliners for Ford Transmissions make easy work of a hard, mean job. They eliminate the work of taking off transmission cover, disconnecting the exhaust pipe —and as is necessary in new Ford models— removing the self starter, electrical connections and gears.

The original installation of Raydex Reliners on a Ford car is similar to the regular task of relining Ford transmission bands.

But once they are attached the task of relining is reduced to three simple operations. After the hand plate to the transmission cover has been removed the rest of the work can be done with the fingers. It consists merely of pulling out the pedal and slipping the reliner around inside the transmission band.

Raydex Reliners for Ford Transmissions are slidable bands of thin, tough steel to which lining is securely riveted. They slip under the Ford transmission band quickly and easily. ***None of the original Ford equipment is disturbed.***

Raydex Reliners have a powerful appeal to all Ford owners. Thousands are already in use. They are guaranteed absolutely to do their work perfectly.



Raydex Reliner For Ford Transmissions

Reliner attached and ready for use

RAYDEX MANUFACTURING CO.
BRACKENRIDGE, PA.

Sales Department
Charles F. U. Kelly, Inc., 1834 Broadway, New York, N. Y.

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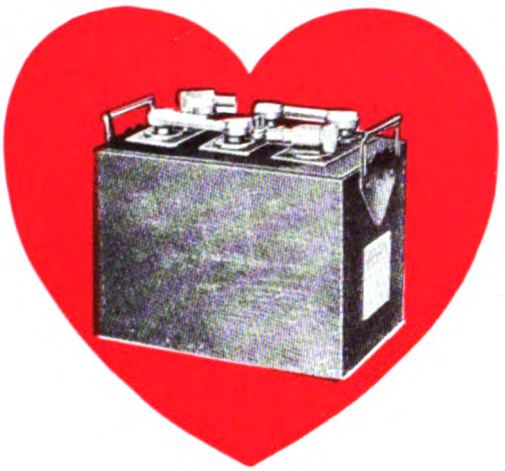
A ♥ *The ACE in* BATTERIES



THE HEART
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Electrical System

The
"UNIVERSAL"
The Aristocrat of the Battery World

Enters Western Field with
Los Angeles as the
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Car Owners—Investigate
Garages, etc. — Do Likewise and
Call or Write for our Decidedly Attractive Agency Proposition

STEWART BATTERY CO.
3036-38 S. Main St. Phone South 1763 Los Angeles

REYNOLDS
MOTOR TRUCKS

Are correctly designed and built for Pacific Coast conditions—great reserve power, rugged construction, durability and continuous service. A Square Deal policy backed by the Pioneer motor truck men behind it, make the trucks highly profitable to Distributor and Owner alike.

1½, 2½, 3½ and 5 Ton Capacities

Desirable territory is open to Responsible Distributors

REYNOLDS MOTOR TRUCK COMPANY
MT. CLEMENS, MICHIGAN

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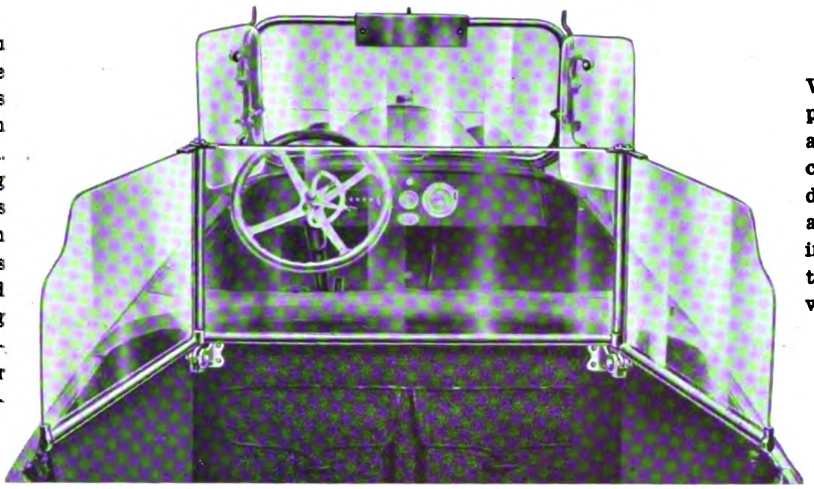
Our No. 5 Tonneau Windshield is a five-piece panel, neat design; wings can also be swung in any direction or folded. Also has disappearing feature, which places Shield out of sight when not in use. Center panels can be opened and closed by means of a sliding glass, for purpose of conversation between rear and front seat passengers.

PRICE $100.00
F. O. B. Factory



Our No. 3 Tonneau Windshield is a three-piece panel. It is very attractive, and the wings can be swung in any direction, or folded. It also has the disappearing feature, which places the Shield out of sight when not in use.

PRICE $75.00
F. O. B. Factory

Tonneau Windshield No. 3

Windshields *of* Ultra Refinement

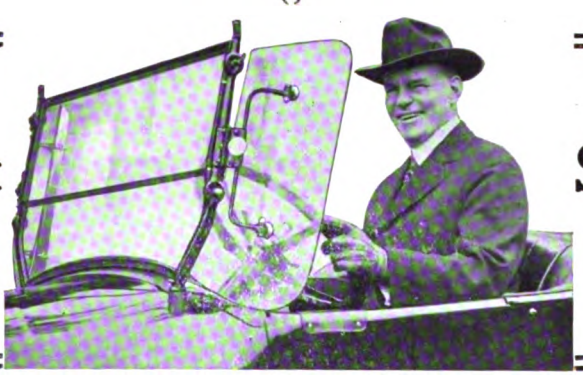
BETTER KNOWN AS THE

Write or Call
FOR PRICES

SIMPLEX
TRADE MARK

Custom Made
FOR EVERY CAR

Affords
Class - Comfort
and
Security



The
Super-Shield
of
Them All

Many are the Windshields Manufactured
There Is But One

"SIMPLEX"

"Dealers Write For Attractive Proposition"

M. & M. Manufacturing Co.

FACTORY: **3667 Moneta Ave.** **Phone 24849** **Los Angeles, Cal.**

FACTORY BRANCHES:

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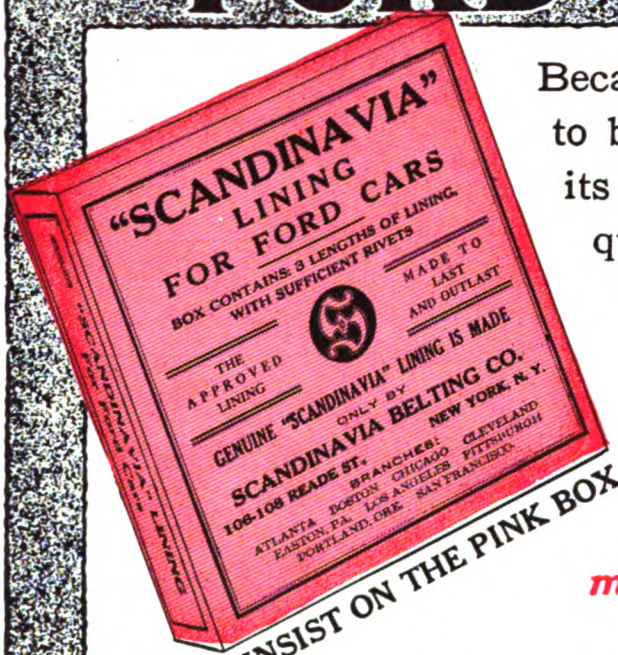
SCANDINAVIA

TRADE MARK REGISTERED IN U.S. PATENT OFFICE

BRAKE LINING for FORD CARS



INSIST ON THE PINK BOX.

Because it has proven itself to be all economy through its unusual long wearing qualities, and its satisfactory service during long usage—

Scandinavia has been the accepted lining for Fords for many years.

AS EFFICIENT AS AN AIR BRAKE--THE LINING DE LUXE FOR FORD CARS

Scandinavia is made especially for Ford use. The hot, oily condition of the Planetary Transmission cannot harm it.

It will not chatter or glaze.

It is wear proof.

It is made of the best long staple cotton interwoven into a compact fabric, especially impregnated, processed and hardened to resist heat, oil and grit.

ATTRACTIVE PROPOSITION TO JOBBER AND DEALER.

SCANDINAVIA BELTING CO., 106 READE STREET NEW YORK, N. Y

BRANCHES: Atlanta, Boston, Chicago, Cleveland, Easton, Pa., Pittsburgh. San Francisco. Los Angeles. Portland, Ore.

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Motor West

THE MOTORING AUTHORITY OF THE PACIFIC COAST

VOL. XXXII, No. 11 MARCH 15, 1920 $2.00 PER YEAR

TRANSFORMING THE ASCOT PARK TRACT

Ten Million Bricks and Huge Quantities of Other Material Going Into Goodyear Company's Plant.

One of the busiest places in the West right now is the famous Ascot Park in Los Angeles, where the big plant of the Goodyear Tire & Rubber Co. of California is under construction.

An idea of the magnitude of the operations can be gained from the extensive outlay for construction. Among the important materials which 1,800 men are fashioning together into a mammoth industrial enterprise are 6,000 tons of structural steel, 15,000 gallons of paint, 33,000 tons of sand, 60,000 barrels of cement, 600,000 tons of crushed rock, 4,000,000 feet of lumber and 10,000,000 bricks.

The building scheme embraces the construction of three units—a tire manufacturing plant, a cotton fabric mill and a warehouse. Around these three main buildings will be grouped the various service buildings such as the power house, machine shop, cement house, administration building, etc.

The power plant contains three 600 horsepower boilers of oil burning type. An ample supply of water will come from six 200-foot wells on the tract. They will have a combined capacity of 7,200 gallons per minute. Electric power will be used for pumping.

The operation of the tire plant and the cotton mill will employ about 9,000 workmen. The daily output of tires will approximate 7,500 and the cotton mill will turn out weekly 75,000 pounds of cord fabric and 75,000 pounds of woven fabric. The raw cotton from which this fabric is to be manufactured will come from the Goodyear plantations in the Salt River Valley in Arizona and the Imperial Valley of Southern California.

A most important feature of the company's project is the extensive plan to provide homes for the workmen. The construction of 48 bungalows and two large apartment houses is now under way on a 10-acre tract adjoining the factory site. About April 1 work will be started on the Goodyear Gardens, a 160-acre tract just north of the factory, on which 800 houses will be erected to be sold to Goodyear employes. This great home community, which will represent an outlay of $3,000,000, will be one of the most beautiful in the United States.

Provision has been made for spacious parks, athletic field, gymnasium, swimming pool, school, library, churches and stores. To provide flowers, shrubs and trees for the streets and parks a large nursery is being maintained where thousands of these are being grown under expert care.

Such satisfactory progress has been made on the entire project that Goodyear officials and engineers are confident the tire manufacturing plant and the cotton mill can begin actual operations shortly after June 1, as originally planned.

The temporary offices in a large building in the heart of the city are extremely busy these days; are, in fact, found insufficient as to space.

Seiberling Sees Goodyear Site.

Charles W. Seiberling, dynamic vice-president of Goodyear, with Mrs. Seiberling, reached Los Angeles a few days ago and inspected work on the great factory site. On his way he visited the company's Arizona cotton fields, 28,000 acres. He said the total acreage in the same Salt River Valley is 150,000. Food production is being neglected for cotton. Also with Mr. Seiberling, was W. C. State, chief mechanical engineer, who designed all the company's large buildings in Akron and Los Angeles. The party has returned East. Mr. Seiberling—who is responsible for the social service features of the company—said that soon the trip from Akron to Goodyear and Litchfield, in Arizona, and to Los Angeles, would be by dirigible.

E. A. Williams Visits Coast.

E. A. Williams, Jr., founder and president of the Garford Motor Truck Co., Lima, O., has been doing the Coast on business, and not without pleasure.

KENNERDELL TALK STIRS L. A. TRADE

Dealers' Head Says Makers Will Be Urged to Insist That Glidden Tour Include Southern California.

Ralph Hamlin, president of the Los Angeles Motor Car Dealer's Association, feels stimulated, and is communicating his stimulus to the dealers in the association, as a result of the statement by Richard Kennerdell, of New York, who is chairman of the contest board of the American Automobile Association, that the Glidden tour across the country in September will not be continued after San Francisco is reached, so as to have it end in Los Angeles.

Mr. Hamlin's stimulation, he believes, will not only be absorbed by members of his association, but by the manufacturers whom dealers represent and whose automobiles will take part in the tour.

Mr. Hamlin is additionally stimulated by the reason given by Mr. Kennerdell when he was in Los Angeles recently. It is, that he does not wish the tour to end in Los Angeles because there is, or was, a lack of entente cordiale between the A.A.A. and the Automobile Club of Southern California, due to a rupture some years ago, caused by what the club deemed arbitrary rulings by the A.A.A. contest board. This reason makes Mr. Hamlin feel positively full of ginger.

"I know the A.A.A. is running the tour," said Mr. Hamlin, "and that there probably will be a second section in the tour, composed of private owners, and that it will be the final touring contest for the Glidden trophy which is in the custody of the A.A.A. But—it is the manufacturers who will make the tour a success, and I do not believe they want its success to be marred, as it would be if Southern California were omitted from the itinerary, especially for any such reason. We hope to get the manufacturers to say so."

This country produces the most oil, Mexico second.

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FORD DRIVERS ARE MORE POLITE HERE

What Detroit Suffers in One Way Is Probable on Coast If Stages Are Not Controlled, Says "On the Spot."

Impressions of capable visitors always are of interest and value. F. Ed. Spooner, known since long before the the automobile industry began, as "On the Spot," earned that title by being just that, as a news conveyor. His office in Detroit is the distributing center of practically all the very latest. His "Automotive World" department in the Free Press, a daily grist of meaty paragraphs, is as necessary to many thousands as their breakfasts.

Wherever he is, he feeds that column. A very competent office force does the details, which include such publicity service for a number of concerns as newspapermen absorb with pleasure while discarding slush.

Mr. Spooner has been on the Coast several weeks and has sent home a lot of paragraphs which will give the East needed information and greatly help this region. He has noticed significant facts which we of the Coast do not grasp because they are too near to us.

One thing noted, which may be a pleasing surprise to Ford drivers on the Coast, is that while they are numerous, they are decent. In and around Detroit, it appears, the very fact that they are so very numerous makes them so obstreperous that there is a tacitly organized defense movement among motorists against them.

Spooner compares the situation there with Los Angeles. Though Wayne County, Mich., has only 200 miles of roads equally good, mostly concrete, it has about as many motorists as Los Angeles County, Cal., which means that driving in the county on a Sunday means partaking in a procession. Many Ford drivers, it appears, make a practice of running past among and otherwise disturbing the equanimity of the others, and sometimes it happens, by tacit concerted action, that the procession sways toward the side of the would-be passer until he is crowded into the ditch, where he is left to ruminate, while the cavalcade straightens and goes on.

The railing of the narrow temporary bridge connecting Detroit with Belle Isle is said to be marked by many contacts with such would-be passers, subjected to this punishing form of squeeze. It does some good, but does not cure. Spooner says the difference out here is very noticeable.

When there was a call during the war for operators of baby tanks, Spooner urged through the Free Press that Detroit's Ford drivers be requisitioned, as they had down pat the art of making people jump for their lives. It made Detroit laugh in the midst of its misery.

On the other hand, Spooner says, the drivers of motor stages on the Coast are pretty near the limit—astonishing as to their number, fine as factors in a splendid public service, but evidently becoming arrogant as to highway rights of way. On a drive to San Diego, between 40 and 50 motor stages passed, one way or the other. Each carried eight or ten persons. On the return, 20 were met which were going South, and 11 passed with impressive speed, bound North. It does not pay the smaller automobiles to get in their way. Recently, in a bump near San Diego, several people were injured because their machine was run into by a stage. The stage drivers pass between smaller machines as though they were going to a fire, fortunately, in most instances, with precision. The practice is dangerous, however, says Spooner, and the majority might do well to submit any unusual cases to the State Railroad Commission.

HARRY J. SNYDERMAN.

Harry J. Snyderman, formerly carburetor expert for Lathan Auto Supply Co., now is with the Western Agencies Co., San Francisco, the automotive products division of which has grown so fast that when its manageemnt was offered him he could not resist. He is directing a sales campaign on several exclusive lines, including Ultra Glass, a non-shatterable glass that surprised many at the San Francisco show.

During his stay in Los Angeles, Mr. Spooner, who is mentally ambidextous and writes one thing while he talks another, occupied a den at "Motor West" headquarters and chatted with many visitors. One was E. Le Roy Pelletier, whose unusual and brilliant presentation of advertising facts has made him both famous and rich. He was Ford's first ad writer. His ad writing "made" Flanders and others. Now he is advertising counselor for Reo, and his agency in Detroit is the publicity center of a score or more of clients

Pelletier interrupted his wintering on the Coast to attend the national shows, but he's back, and busy planning a court in Pasadena, comprising 40 houses, and which will be, he says, of the Palestine type architecturally. Here's betting it will be Pelletier as well. He has bought a home at 1201 Avoca St., Pasadena. He returns East in May, with Mrs. Pelletier and their adopted daughter; but as to next winter, and the next, and finally, "California" is painted on the Pelletier palette. He may enter the real estate business. He may open a Los Angeles branch of his advertising agency. But anyway, he's "on his way" Westward in a residential sense, and whatever he does will be out of the ordinary. Near Pontiac, Mich., and near enough for a man to drive out from his work in Detroit—except for a week at a time in winter—the Pontiac Holstein, once famous, then practically extinct, is coming back, on Pelletier's farm; and when he moves to the Coast there'll be something of some kind devised by him to keep the world from getting into a rut.

President Roy D. Chapin, General Manager Jackson, and W. J. McAneeny, all of the Hudson Motor Car Co., and Walter J. Bemb, Michigan distributor of the Hudson, are also in the Crown City.

So is Carl M. Green, of the Green, Fulton, Cunningham Co., Detroit, who is at Hotel Green. His firm handles many accounts, including General Motor Truck, Dort, National Wire Wheel, and others.

Mrs. H. W. Ford, widow of the late president of the Saxon Motor Car Corp., is a Pasadena resident.

Norman A. Pabst, former Scripps-Booth distributor in Detroit, wealthy dog fancier and horse show man, who used to reside at Grosse Point, is in San Diego but is building his permanent home at Beverly Hills, Los Angeles.

GRAPHITE AS TIRE LUBRICATOR.

Graphite is an excellent lubricator for tires subjected to extra heavy duty and excessive speeds. Racing drivers use graphite, but only after sifting through a sieve made of cheesecloth on to the revolving tube. This method is necessary, otherwise several flakes of graphite might accumulate in one point thereby causing deterioration—the oil in graphite being a foe to rubber.

Potatoes are costly, but, if there's no other way to temporarily splice a fuel line, a spud with a hole through it serves.

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COAST IS SERVED BY EASTERN COLD

Shipments Intended to Go That Way Diverted Westward on Account of Weather Conditions.

The recent cold wave in the East stimulated car shipments to the Coast. Railroad communication between the factory region and the Atlantic Coast became difficult and uncertain, while westward lines remained fairly well open. The result was that many shipments consigned to Eastern firms were diverted toward the Pacific Coast.

Railroad transportation was seriously hindered by the unprecedented cold spell and finally a ten-day embargo was placed on all freight shipping. Detroit, Cleveland and Indianapolis factories kept on producing at normal rate, large stocks of cars accumulated and the dealer visiting the factory who had satisfactory railroad communication with his home town was for the moment the child of fortune.

Such were the conditions which have reacted favorably for Maxwell & Hoffman, Studebaker dealers, when Paul G. Hoffman, president, visited the East, with his mind bent on increased allotments. Several carloads of Studebaker special sixes have arrived lately and the firm will be able to fill orders sooner than expected.

Warner Motors, Inc., handling the Mitchell car, is one of the latest developments in the Southern California distributing field. L. E. Warner heads the new company as president, while George W. Franklin, former head of the Security Motor Co., is manager. The company announces it is able to make immediate delivery on a limited number of cars.

Another change in the dealer field is that for the Columbia Six, the Southern California agency being taken by the J. V. Baldwin Motor Car Co., well-known Saxon dealer, upon the occasion of the visit of J. G. Bayerine, president of Columbia Motors, to the Coast.

Among lines upon which prompt deliveries are announced as being possible are the Dixie Flyer, Studebaker, Jordan, Nelson, Stephens, Case, Crow-Elkhart and Holmes cars, and on Auburn, Liberty and Mitchell in limted numbers.

Among individual models appearing for the first time in the Los Angeles territory are the Studebaker special six sedan, the Owen-Magnetic coupe, Chalmers five-passenger, Dixie Flyer touring and National enclosed models.

During the first twelve working days of February, Fred Nelson, salesman for the W. P. Herbert Co., sold 12 new Chandler cars at retail to 12 buyers, transacting a gross business of $30,556. His net business, that part free from cars taken in on trade-ins, was $27,606. Of the 12 cars, three were touring, three roadsters, three dispatch, two coupes, and one sedan.

The full line of Crow-Elkhart cars will shortly be on hand, states James P. Gibson, several models having already arrived.

The model 34 C Oakland car was shown for the first time in Southern California recently by Hawley, King & Co., dealers.

The new Owen-Magnetic model has been put on display. J. W. Gaffney hopes to have several shipments in the near future for local delivery.

GEORGE H. WOOLLEY, JR.

George H. Woolley, Jr., of the Hyatt Roller Bearing Co., is doing co-operative work on the Pacific Coast among dealers handling Hyatt-equipped farm machinery. He will remain in this section three months, working with the San Francisco office.

Three carloads of Dixie Flyer cars were recently unloaded in Los Angeles for Adolph Ott & Co.

Sixty-eight carloads of Nash cars in a solid train recently arrived for the Troy Motor Sales Co.; every one went to a waiting buyer.

With the Franklin factory producing a car every ten minutes the 1920 allotment of cars for Southern California is larger than ever, states Ralph Hamlin.

Walter H. Fisher, successful Haynes car dealer, has added the agency for the Gramm-Bernstein truck for the Southern California territory.

A ten-year lease has been taken by Frank O. Renstrom, Briscoe and Grant car, Atterbury truck and Twin-City tractor dealer, on a very advantageously located building at Eleventh and Hope Sts. Less than one year ago Renstrom's local branch employed only five or six persons; today his Los Angeles forces amount to 33 people.

The Crow-Elkhart agency, the Pico Motor Co., has moved to Pico and Hill Sts. Harris M. Hanshue has located the Apperson agency in a fine new building recently completed at Eleventh and Flower Sts.

Southern California continues to be the temporary stamping ground of many men prominent in the Eastern automobile centers. Among recent visitors were E. W. Bassick, president of the Bassick Mfg. Co.; George S. Waite, sales director Grant Motor Car Co.; M. C. Hale, president, and A. J. Pennington, superintendent and engineer of the U. S. Compression Inner Tube Co.; E. A. Scheu, general sales manager King Motor Car Co.; E. A. Williams, Jr., president Garford; and George A. Kissel, president Kissel Motor Car Co.

Fast Peerless Drive, S. F. to L. A.

In a stock 4-passenger Peerless Eight, Charles Basle, veteran pilot, drove the 423.2 miles between Western Union offices in San Francisco and Los Angeles in 9 hours 20 minutes, between 9:56 p. m., March 10, and 7:16 a. m. next day; via Oakland, Tracy, Manteca, Fresno and Bakersfield. In a cold fog the 126 miles, Bakersfield to Los Angeles via Ridge Route was done in 2 hours 44 minutes. Horace S. Hills helped drive. Passengers were A. O. Terry, the Peerless vice president's son, and S. G. Buckner, retail sales manager for Smith Bros., Southern California distributors.

In June, 1916, in a stock touring 4-passenger Cadillac carrying four, Ted J. Beaudet drove 453 miles, from the Plaza in Los Angeles to San Francisco, inland via San Jose and the peninsula, in 9 hours 37 minutes. Rain fell during 140 miles and the roads were not as good as now.

Los Angeles County authorities are reported contemplating checking users of the Ridge Route, to prevent further excess speeding.

Bryan Represents Century Plainfield.

C. E. Bryan, factory representative for the Century Plainfield Tire Sales Co., is now affiliated with W. M. James, Pacific Coast manager in the Pacific Coast states and Hawaii and the Philippine Islands, and will hereafter have charge of sales in the territory covered by this branch, which has opened offices at 523-8 Pacific Building, San Francisco.

Henry Ford's brother is a farmer near Dearborn, Mich.

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SPOKANE HAVING PROSPEROUS TIME

Good Roads Era Hits Eastern Washington's Distributing Center and Every Prospect on Horizon Pleases.

Eastern Washington, of which Spokane is the hub, is in the midst of its greatest road-building boom. The logic of improved highways taught by foresighted business men has taken deep root and the gospel is being preached in urban home and hamlet as well as in metropolitan circles. Touring bureaus are to be maintained this year by the Goodyear, Goodrich, Fisk, Stewart, United States Tire, Firestone and other agencies. Spokane dealers are beginning to receive touring inquiries. Above all, the Inland Automobile Association, the National Parks Highway Association and the Spokane County Good Roads Association have mapped out delightful vacation trips.

With the completion of the automobile road to the summit of Mount Spokane, as proposed by the county commissioners, Spokane lovers of the outdoors will be given another scenic drive from which to view a wide expanse of territory. The drive may be made in a few hours.

Spokane is enjoying one of the most prosperous automobile winters in its history. There has not been a day during the season that an owner of an automobile could not use his car for business or pleasure, L. W. Hodgins, a leading Spokane dealer, stated recently. Geographically, Spokane is a natural distributing point over a wide area. The source of manufacture being almost exclusively in the East, Spokane, with its many trunk line railways and feeders, is in better position to detour and re-route carloads within a radius of 200 to 500 miles than any other city this side of Minneapolis. While automobile shipments to Spokane dealers have been unusually heavy, the retail deliveries also have been heavier this winter than any other year. There are not nearly as many cars in the warehouses for the spring fair-weather buyer as was expected.

J. C. Keller, a pioneer who once pitched his tent on ground now in the city limits, a merchant and banker, has come to Spokane with C. W. Fike, also a pioneer, to form the Keller-Fike Motor Co., for the distribution of International motor trucks.

Spokane's first trainload of Nash passenger cars arrived recently after a quick trip from the factory at Kenosha, Wis., coming through on express time in five days. The train consisted of 32 carloads.

Inland Empire distributing territory for the Maibohm Six has been secured by the Nelson-Rush Auto Co., recently organized dealers in used cars. They are constructing a modern garage at 807 Second Ave.

Wholesale deliveries are continuing as strong as retail sales, with the approach of warmer weather, according to Sales Manager L. K. Nichols of the Interstate Motor Co., Spokane, who reports the sale in one week of twenty Dorts, ten Allens, six Velies and six Velie trucks.

W. D. Caswell, sales manager of the Five Hundred Co., and specialist in Day-Elder trucks, has resigned and accepted the management of the truck department of the Chester N. Weaver Co., of San Francisco, continuing his Day-Elder work. Charles Brydges, former salesman, has been promoted to the truck department of the Five Hundred Co., and is laying plans for an active sales campaign in the Inland Empire during the spring and summer.

J. H. Cooley, for seven years manager of the Sherman-Clay piano house prior to 1915 and one of the four organizers of the Rotary Club, has returned to Spokane to become associated with R. C. Dahljelm in the distribution of Stanley Steamers.

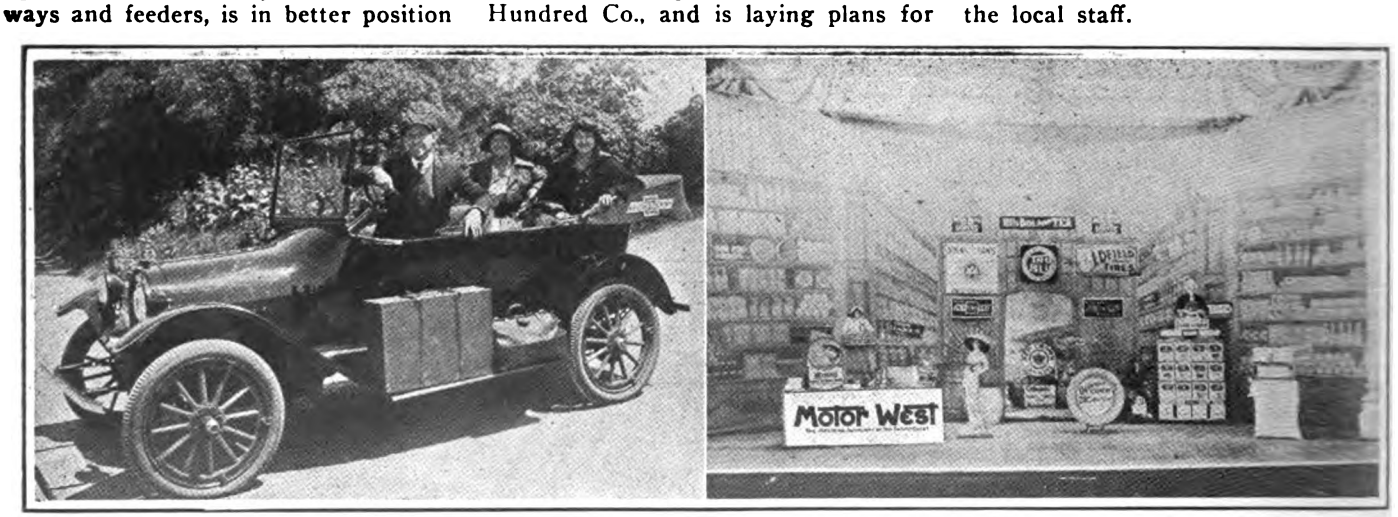
The first $100 reward ever paid by the Inland Automobile Association, Spokane, for information leading to the arrest and conviction of persons stealing cars owned by members of the association, was paid to an automobile salesman, M. H. Mitchell, of the John Doran Co.

Despite sheafs of assurances that war-time inflation of prices has reached the peak, that prices all along the line are doomed to decline and that automotive conditions are again reaching normal, Spokane motorists have again been forced to accept a general increase in the price of 90 per cent of the cars on that market during the last several weeks, most of the increases having become effective February 1. Boosts in price ranging from $75, on the lighter cars, to $900, have been made.

The Indispensible Auto Bed, an invention of A. G. Mitchem of the Dirks Motor Supply Co., of Spokane, has been turned over to the Full Mfg. Co. for manufacture and distribution.

Three well-known Spokane salesmen have joined the sales force of the Highway Trailer Co.—Joe Dean, C. L Modesitt and G. R. Pool.

Because of its strategical location as a distributing center Spokane has been selected as the center of one of 15 distributing districts created throughout the United States by the Fisk Rubber Co. Four salesmen will be added to the local staff.



VAUDEVILLE ACT AND FULL EQUIPMENT GOES FROM TOWN TO TOWN IN A FOUR-NINETY CHEVROLET.

Eldridge, Barlow & Eldridge, vaudeville veterans, may be said to be in the automobile business, in a way. They have a comedy, singing and dancing act entitled "A Rural Delivery." They not only advertise the idea indicated by the title, but certain automotive products, including the leading Pacific Coast automobile journal; and they do their traveling in a four-ninety Chevrolet. Sometimes the jumps involve traversing say 200 miles of country road. It is about that far from Chicago to Indianapolis. They left Chicago on a Sunday, after their "big time" performance. The first 70 miles was pleasant. Then a storm called for anti-skid chains; a 15 mile detour; three punctures. At 11 a. m. Monday they still had 110 miles to go, and due to appear at 3 p. m. They tore through villages. A sheriff chased them 25 miles. They even bettered the three hours' time and had 15 minutes to spare before going on the stage. The authorities had been phoned from some town, and after the show arrest followed, and a $50 fine.

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PORTLAND EXPECTS GREAT TRUCK YEAR

Indications Are That All of Oregon Will Beat 1919, Banner Season, in Buying Best Transportation.

From all indications this will be even a bigger truck year in Oregon than was 1919, which is saying a good deal, as the 1919 season set many new records in the north for motor truck sales. But the recent truck show in the Portland Armory, held in connection with the passenger car show at the Ice Palace, emphasized the tremendous possibilities of the motor truck market for 1920.

The scope of this market is already forecasted by many orders for spring delivery of 3½ ton models with dump body equipment. The 3½ tonner with dump body is a great favorite in Oregon, the reason being its usefulness in road construction work. There is a growing demand, however, for 1½ and 2 ton models with pneumatic tires.

There will be even more road activity in Oregon this spring and summer than last season, when out of 1,361 miles of road contracted for by the state highway commission, 544 miles of new road were built, including 163 miles of paving, 94 miles of macadam and 286 miles of grading.

In addition to all this, having already expended or contracted for road work totaling approximately $30,000,000 from state, government and county sources, the people of Oregon in May will vote on a measure submitted by the legislature, to authorize an additional $10,000,000 bond issue for highway construction. No wonder there is a big market for motor trucks. Portland distributors and dealers see a great market ahead.

Portland motor car dealers did a large business at the recent show in the Ice Palace, and have been pretty busy since cleaning up on further business resulting from the show. The chief concern of distributors just now is inability to get enough cars from the factories.

Eugene, Ore., motor car dealers have called off their scheduled automobile show because of inability to get enough cars for a creditable show display.

Dealers at Marshfield, on Coos Bay, held their first automobile show in March. It was a 3-day event, and about 40 cars were displayed, enclosed models being featured. The show was in charge of I. R. Tower, president, and E. H. Merlin, secretary, of the Coos Bay Automobile Show association.

Portland has been selected by the Goodyear Tire & Rubber Co., as its Pacific Northwest distributing center, and George Bellis, former assistant branch manager at Los Angeles, has opened quarters in the Oregon metropolis on an entire floor of the Wilcox Building, as Northwest branch manager. He will have jurisdiction over branches at Seattle, Tacoma and Spokane.

The Sunset Electric Co., W. J. Albritton, manager, distributors for USL batteries and products of the United Motors Service Co., has removed to a new $35,000 building covering an entire half block in Glisan St., between Ninth and Tenth. The building is 200x100 feet. Equipment throughout is modern.

E. H. Cummings and P. J. Carson have opened a tire store at Broadway and Flanders Sts., under the firm name of Cummings & Carson to handle city sales of Firestone tires. Both are former Firestone factory representatives.

The George Lawrence Co., which has been in the saddle and leather manufacturing and jobbing business in Portland since pioneer days of 1857, has turned from that business to the automotive trade. It has just opened a complete automotive accessory department, and will job to the wholesale trade.

W. L. Powell, Broadway and Glisan Sts., has taken the Mulnomah county agency for Hood tires. He was formerly in charge of the accessory department of the Covey Motor Car company.

Peter McIntosh for three years purchasing agent for the city of Portland, has joined the Gary Coast Agency, Northwest distributor for Gary trucks, as manager of the Portland branch. E. L. Cramblitt, former manager, becomes president of the company.

The W. H. Wallingford Co., Oregon distributor for Liberty and Briscoe cars, has adopted a policy of placing direct company branches in the smaller towns. R. F. Strong, territory manager, and W. C. Montgomery, retail sales manager, have been placed in charge of branches at Pendleton and Astoria, respectively.

James E. Graham is manager of the Crow-Elkhart Sales Agency, formed to handle the Oregon distribution of Crow-Elkhart cars, formerly sold by the David A. Pepp Motor Car Co. Pepp has taken on the Shaw and Revere, to which he will devote all his attention. Graham, a son of J. H. Graham, distributor for Case and Davis cars, will handle the Crow-Elkhart line from a corner of his father's fine new sales rooms in Tenth St., near Stark.

W. C. Garbe, Inc., is the new name of the Oregon Motor Car Co., Multnomah county dealer for the Studebaker and Oregon distributor for Master and Apex trucks. Garbe is president of the new company, as of the old one, and F. M. Leeston-Smith is general manager. W. C. Garbe, Inc., for some time has had a branch in Spokane under that name.

A. H. Knaus, partner with R. E. Murphy in the Twin States Motor Car Co., Chandler and Cleveland distributors, has sold his interest to Murphy, and gone to California.

Harry Hays, territory man through Oregon for the Willys-Overland-Pacific Co., for the past three years, and widely known as "road king of Oregon," has been appointed sales manager of the Willys-Overland-Pacific branch in Portland. He succeeds Rollie U. Peterson, sales manager for the past five years, who becomes Overland dealer at Vancouver, Wash.

The Pacific Motor Sales Co., 328 Glisan street, has been formed to handle the Indiana truck for Oregon and the Columbia river counties of Washington. It is composed of Sherman Hayes, W. H. Ziegler, H. H. Hartzell and O. O. Poyfair.

A new Portland concern, the Pacific Motor Sales Co., has the state agency for the Indiana truck. It is headed by Sherman Hayes, who for six years was salesman in the Willys-Overland Pacific branch. With him are W. H. Ziegler, two years an Overland salesman; H. V. Hartzell and O. O. Poyfair. They are at 328 Glisan St., in the United States Tire Co. Bldg. The Indiana is made of standard parts throughout and is already numerous in the state.

C. H. Kepler, of long factory experience, has joined the sales force of the Pacific Tire & Rubber Co., distributors for Blackstone fabric and Canton cord tires. F. L. Hawley, salesman for several months, has been promoted to sales manager. R. Jansberg has joined as salesman.

Jerry Wilson, formerly with the James S. Remick Co., Sacramento, has been made sales manager of the automobile accessory department of the P. J. Cronin Co.

Lee J. Kearns, for several years sales manager for the Willys-Overland-Pacific Co., at Seattle, has come to Portland as sales manager for the D. C. Warren Motor Car Co. This organization has adopted a policy of broad expansion. It owns the Interstate Motor Car Co. in Spokane and a Los Angeles company.

C. A. Gore, of the A-1 Auto Works, has taken the Oregon distributorship for the Skelton car.

A. T. Allen and E. M. Whitaker have been named Oregon distributors for the Patriot truck. They are handling wholesale business only.

The Motor Sales Corp. has taken the state agency for Fageol trucks and tractors.

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BIG SHOW'S AHEAD IN SAN FRANCISCO

Model Garage, Mechanical Demonstrations, Thousands Automotive Lines, at Coming Exposition.

The word is passed that dealers and repairmen who make it their business to be in San Francisco all or most of the six days, March 30 to April 4, inclusive, will have learned something whereby to make their business better. This refers to the first annual Pacific Coast Automotive Equipment Exposition, to be held in the Civic Auditorium.

The model garage on the floor of the Auditorium will cover 3,000 square feet and will contain every detail of the garage and machine shop business from the time entry is made in the ledger until the job is disposed of. It is a great educational feature and the object is to teach better business methods, lower cost of operation and to create more sales.

One of the wings of the Auditorium, which comprises 7,500 square feet, will be used entirely for heavy machinery, tools and electrical displays. Here will be seen the latest and most up-to-date machinery in operation. The mechanic will see things that he never saw before. Students of mechanics can spend many interesting and instructive hours in this machinery hall.

Hundreds of new devices, improved tools and tool making machines, representing the latest developments, are on the way from the East. Dealers from all Pacific Coast states are being urged to attend. The music, entertainment, decorations, and so on, will be worth while. It will be an unusual opportunity to personally meet a large number of equipment men. The real thing, however, will be the display of more than a thousand lines of automotive business-makers, and the demonstrations. These alone will make the show one long to be remembered with a reminiscent pat on the pocketbook.

San Francisco car buyers have lately been regaled with a wealth of new cars, of handsome lines, seen for the first time on the floor of the Civic Auditorium during the recent show and now released to meet the public's demand for 1920 automobile creations.

Deliveries also continue fairly good, although not so many dealers are laying stress on the fact of being able to make them immediately as was the case a month or two ago.

On Chevrolet sales George Campe reports the demand as enormous and expects that before summer he will not have enough cars to go 'round.

The Frawley Motor Co. announced recently that it had Mitchell roadsters, touring cars, sedans and coupes in stock. Effective March 1, $100 was added to price of Mitchells on the Coast.

Don Lee now has fairly large Cadillac shipments on the way from Detroit and deliveries will be made in the order in which cars have been contracted for.

The Davis Six, comparatively new on the Coast, has been taken up well by the dealers, reports the Standard Auto Sales Co. They recently placed an order for a train of 45 carloads to be shipped at once to the Coast.

The above firm is agent also for the Piedmont Four, another new arrival, of which shipments are on the way from Lynchburg, Va., making deliveries to buyers possible within 60 days.

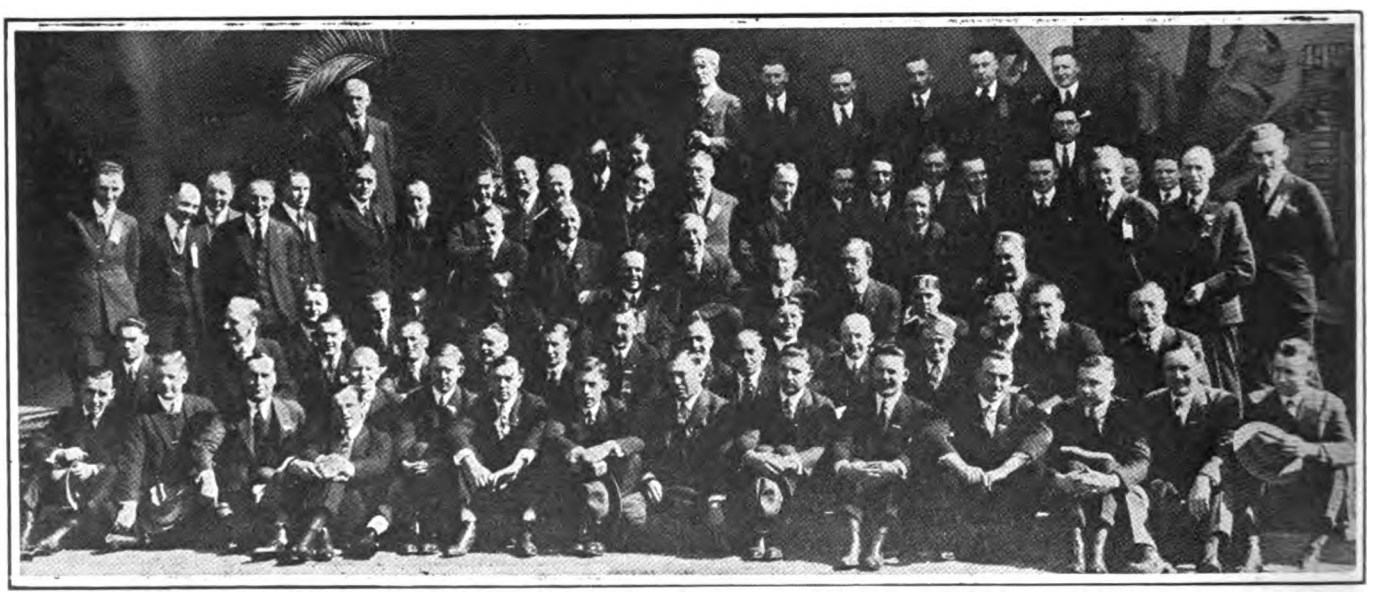
From Southern California, where he met Elmer Apperson, of the factory, Martin M. Hartman brings back word that shipments of Apperson sedanette models are now en route to San Francisco.

Many orders for Roamer cars were taken during the show, according to Tony Holbeck, manager of the agency, who adds that the desires of a long line of prospects will be filled soon.

Among the motor truck dealers, the contracts for Sandow trucks placed by the California Motor Sales Co. makes that concern the largest in the Sandow factory's chain of selling agents, according to the statement of William G. Schultz, general sales manager at the factory and a recent show-time visitor to San Francisco.

During the holding of a sales convention, coinciding with the show, out-of-town dealers of J. W. Leavitt & Co. contracted for 22 Oldsmobile Economy trucks. The company is having as hard a time keeping its orders for trucks filled as it has on passenger cars, they announce.

Pedestrians and automobiles have 50-50 rights in Kansas. A court decision, overruled, was that the man afoot must step aside.



TAKEN DURING FIRST ANNUAL CONVENTION OF CHANSLOR & LYON CO., GREAT COAST DISTRIBUTING CONCERN.

Looking at the personnel of the first annual convention of the sales organization of Chanslor & Lyon Co., which was held in Oakland, is like sensing the pulse of the automobile industry on the Coast. It was a gathering at which, in addition to officers of the company and many friends from the East, eighty salesmen attended, leaving their fields in the great Pacific Coast region for the period of a week. Get the significance of these eighty salesmen, the company's business being exclusively jobbing in automotive equipment. At the present rate, in five years the field force may be a regiment. The concern started in a small place in Los Angeles, in 1904. Its establishments spread to San Francisco, later to Seattle, Fresno, Oakland, Portland, Spokane and Tacoma—eight large stores. The convention, which will be repeated annually, was an immense success. Instead of opening with business, the first move was to cross the bay, visit the automobile show and motor around San Francisco, lunching at Tait's at the beach. Next day, and after, well defined talks by central and branch heads, and Eastern visitors, with a fitting ending in a banquet and a view of motion pictures of Mr. Lyon's three-months Alaskan hunting trip.

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SEATTLE SHOW IS ON ALL THIS WEEK

Floor Space Is Abundant for the 126 Passenger Cars, 45 Motor Trucks and 49 Accessory Exhibits.

Automobile dealers of Seattle, Wash., opened their automobile show for 1920 on March 15. During the past week the exhibitors have rushed the finishing touches on their displays and were ready to receive the crowds at the scheduled opening hour.

According to figures gathered by Show Manager William J. Coyle, the 1920 show will embrace 126 passenger cars, 45 motor trucks and 49 accessory booths. Compared with this the 1919 show, the first one staged in Seattle in four years, included 58 cars, lack of space in the Armory Building compelling it to be held as an exclusive passenger car show.

The floor area is at hand this year, however, for staging a show including cars, trucks and accessories. The completion of the imposing five-story Pioneer Auto Garage Building gave 75,000 square feet of floor space. The building's location is also especially good, being in the downtown section and situated at the intersection of Fourth Ave. and Columbia St.

As regards the decorative effects, the principal hues setting off the interior of the building are pink and gold. The ceilings and walls of the three passenger car floors are draped with these colors to breathe the idea of spring. The lights throw a pink illumination. Branches, peeping through the flowers, strengthen the arboreal design.

Scenes on hand-painted canvas depict boulevard, scenic and road views on the car and truck floors; the accessory booths will be set off by lattice work and other special decorative details.

The truck department will not suffer from the somberness usually found among commercial vehicle displays. The trucks are found with chassis of white, with red stripes; gray, with green stripes; blue, with white stripes; simple yellow; red, with green-striped gold leaf; and so on. Pneumatic and solid tires, hydraulic hoists and dump bodies are also displayed.

Every variety of car design will be found in the passenger car division. One booth houses three cars, valued at a total of more than $17,000. Another presents a special chassis, with cross-sections cut away and with glass inserts, the interior parts being electrically operated and illuminated.

Damascan blue, Tiffany bronze, gunmetal gray and maroon are some of the resplendent hues found in the muster of some of the best creations of the body-builder's art. As to wheels, red disc, white wire, blue wood, natural wood, disteel, bronze, steel disc and cream wheels are listed.

The standard model of car will dominate, but the proportion of stripped chassis is reported as being strikingly large. Many 1920 offerings of the factories will be presented without extra dress.

The Seattle Automobile Show opened promptly at 10 o'clock Monday morning, March 15. Ten-thirty o'clock Saturday night, March 20, will see the close, celebrated as a grand finale. Throughout the week the show will close at that hour.

Special nights for the week have been announced by Chairman H. P. Grant as follows: Monday, opening night; Tuesday, Civic Club and Association night; Wednesday, Fraternal night; Thursday, Industrial and Commercial night; Friday, Elks night; and Saturday, special feature and Washington state dealers' day.

JAMES E. APPLEBY.

James E. Appleby, general manager of the Chevrolet Motor Co., of Los Angeles, is now an occupant of the California Hospital, at Fourteenth and Hope Sts., by reason of injuries sustained some time ago in an automobile accident while on the way to the National Orange Show at San Bernardino. He is now on the road to recovery, but it is expected that it will be some six weeks before his many friends may welcome him back into trade circles.

Bay City Used Car Body Formed.

The used car dealers of San Francisco recently formed an association, having been stimulated to the action partly by pernicious activities of curbstone concerns and "private owners" not entitled to be classified as dealers.

MEET NO. 2 AHEAD FOR L. A. SPEEDWAY

Three 50-Mile Races March 21, Purse $15,000, Twelve Famous Drivers so Far Entered, 16 the Limit.

On March 21, Sunday, three 50-mile races—two heats and a final—will be run on the Los Angeles speedway at Beverly Hills, this to be the second meet for this new 1¼ mile board track. The purse will be $15,000. Entries are limited to 16 invited drivers. Twelve already have entered—Jimmy Murphy, Duesenberg; Tommy Milton, Duesenberg; Joe Thomas, Frontenac; Joe Boyer, Jr., Frontenac; Roscoe Sarles, Frontenac; Ken Goodson, Frontenac; Art Klein, Peugeot; Eddie Pullen, Richards; Ralph De Palma, Ballot; John De Palma, Mercedes; Bennett Hill, Delage; John White, White.

Of these entrants, Murphy was the winner of the 250-mile race on February 28, and Joe Thomas was second. Four of the present entrants started but did not finish, in the previous event—Boyer, Klein, Milton, Pullen.

The driver of the fastest 50 miles will be entitled Los Angeles speedway champion and be given a special prize, in addition to his share of the purse, the division of which has not been announced. It is believed the fastest average will exceed the previous one by five miles per hour.

Eight will start in each of the first two 50 mile heats, and four fastest in each will run the final fifty.

Hundreds of telegraphic and other inquiries have reached Manager Young, mostly from cities which did not send spectators February 28 owing to uncertain weather.

After the March 21 event there will be no racing on the Los Angeles speedway until autumn.

How Franklin is Resting.

George W. Franklin, former head of the Detroit dealers' body, who quit and came to the Coast to rest, became, instead, general manager of the Security Auto Co., Los Angeles. Now he becomes general manager of Warner Motors, Inc., which will distribute the Mitchell in Southern California and adjacent fields, from a new show building to be erected at Twelfth and Figueroa streets. Mr. Franklin is one of the highest paid members, if not the highest, in the Los Angeles automotive trade.

Handles Skelton Four on Coast.

The Security Auto Co. removes to San Francisco, as Pacific Coast distributor of the Skelton Four.

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HAVE YOU HEARD A. H. KROH TALK?

Whirlwind Who Gives Potent Reasons for Motorizing Farms Tells of the Danger and the Best Remedy.

The waters that came down at Lodore had nothing on A. H. Kroh. Mr. Kroh's words fairly tumble over and flood his audience. Yet not a word is wasted. Every syllable sinks in and irrigates. After having been given newspaper commendation in the North, on his meaty talks on the pressing need of motorizing farms so as to speed production, he dropped in at "Motor West" office, accidentally met some men of at least ordinary perception, and when he departed he left several converts behind him.

Mr. Kroh looks the red-blooded college athlete. His education was in agricultural colleges. He was born on a Pennsylvania farm, was "raised" in Maryland till he was ten, his father went broke on a fruit farm and they landed, broke, in Iowa, where the boy, at age 13, when his father died leaving heavy debts, took charge till he was 20. He had good reason to study farm economy, and did. He studied everything, especially history ancient and modern, related to agriculture. He noted the growing movement of peoples to cities as a menace—as sure death to any nation persisting in it. He told what he had learned. He talked so well that, under the auspices of agricultural colleges, he traveled far and wide as a speaker on the subject. Being a farmer—he owns a farm in Arizona now—he became, with his remarkable equipment of facts and the know-how of presenting them, foremost in his line of endeavor. Most of his work was without compensation to him. He was a man with a most practical mission. It absorbed him.

Mr. Kroh became Western sales manager, at Chicago, for Selden motor trucks. He transmitted his ideas so well to a salesman who left the city and went among farmers, that the salesman cleared $5,000 in a year—and was the only truck salesman in Chicago who did make any money that year. He had the right "dope."

Mr. Kroh was brought into touch with the Goodyear people. He went to Akron and told them what he could do for the industry as a whole. He was engaged, well paid, given absolutely free rein, and it was specifically agreed he was not to try to sell anything. He began this connection April 1, 1919.

In Philadelphia he addressed the national convention of Motor Truck Sales Managers. Immediately afterward his farm-motorizing slogans began to appear in many advertisements.

His next task was to organize last year's motor truck development tour through the Middle West. It was a hard task—the organizing; but 18 trucks were on the tour. It was a hard task, too, for Mr. Kroh, but it was a vast success. He spoke 310 times during the 30 days of the tour and the 30 days afterward. Since then he has traveled all over the country, and everywhere has made the kind of impression that gets things done.

Mr. Kroh makes it plain that he is not a "motor truck bug." He is interested in the development of everything correlative to power farming—every-

A. H. KROH,
the man who is doing more than any other man to rightly steer the motorize-the-farm movement.

thing that will increase agricultural production and the public interest in farming; but he hammers home the fact that the most important factor in motorizing the farm is transportation, hence motor trucks.

Mr. Kroh waxes warmest when addressing young men. In view of the nation's situation as he sees it—and he convinces you that he sees it right—he believes the best sort of college for any young man is an agricultural college, and that, on coming home from such a college, the young man is the real, the most potent educator the country needs. The country needs young men with such education, he says, because, for example, in 1914 more food was imported than was exported; because less than 30 per cent of the 110,000,000 people in the country are on the farm; because only 13,000,000 men are actually working on farms.

When farm production ceases, nations cease, as did Babylon, as have many other nations. This is one of Mr. Kroh's chief illustrations, and he pictures it strongly.

Laws will not remedy what's ailing, he declares. Education—the agricultural education of young men, particularly the sons of city men, is the only remedy—that, and motorizing the farm. Since 1899 the country's population has increased 21 per cent, but food production has increased only 10 per cent. Farm workers are so scarce that some are paid $15 a day.

There are not enough farm owners. There is far too much tenancy. Even in prosperous Kansas, nearly half of the farmers are tenant farmers. The tenant farmer often is a failure, and, if he is a young man, he is likely to add one more to the population of some city.

This year there will be, says Mr. Kroh, 25 per cent less wheat planted than was planted last year, in this country. This, although about 60 per cent of the land in Europe which was devastated by war was so uprooted that it cannot be productive for many years.

Moreover, there is latent danger in the many county organizations of farmers. They are discontented. They are liable to be told by social disturbers how they, comprising only 13,000,000 actual farm workers, producers of food for practically 100,000,000 other people, are working too many hours for too little recompense. Farmers are only human. Such talk may transform them into the enemies, not friends, of present-day civilization, whereas their real relief, and that of the whole public, is not in working less, but in making their work more productive for all by motorizing the farm.

Genuine co-operation is urged by Mr. Kroh. In Fargo, North Dakota, he brought about co-operation between motor truck dealers, farmers and bankers—the necessary trinity in such a matter—to facilitate the sale and use of motor trucks. Bankers there were elected members of the dealers' association. Mr. Kroh has brought about similar co-operation in many other places.

As to co-operation, Mr. Kroh emphasizes it must be kindly. Mr. Kroh hammers home his arguments, but he does not hammer anybody. Do not drive—lead, he advises.

Want a job? Mr. Kroh tried for some time to get five men to do what he is doing and offered $5,000 a year. He has had many applications, but none from the kind of men fitted as he believes such men should be fitted. Hence his enthusiasm, even anxiety, concerning the education of bright young men in agricultural colleges.

"Motor West" does not know how much Mr. Kroh is paid; but through

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the thousands whom he reaches, and the way his good work is spread by newspapers, he is doing a wonderful work; and as to what salary he ought to be paid, not merely by one concern but by many concerns collectively, the writer notes the case of a man who was taken from Chicago to rehabilitate Philadelphia's run-down street car system, which was losing big money annually. That man doubled the employes' pay within a short time, made every motorman and conductor a salesman of street car transportation, has stuck to a 5-cent fare with unlimited transfers while many companies are asking higher fares and many are in the hands of receivers; yet the Philadelphia stockholders now are getting good dividends. The man from Chicago's salary? One hundred thousand dollars a year. He earned it.

Bailey-Fitwell Buys Out Economy.

The Economy Tire Cover, which was placed on the market a few months ago by the Economy Tire Cover Co., has been purchased by the Bailey-Fitwell Co., Los Angeles, and will be added to the latter company's already extensive line of motor specialties.

The Economy is a standardized cover made to fit any make of tire in any tread and can be used with wood or wire wheels on any type of carrier. It meets the requirements of the dealer for a cover made of substantial material, selling for a reasonable sum and not necessitating large stocks in order to fit any tire his customers may be using.

During the few short months the Economy Tire Cover has been made it has clearly demonstrated its value, and the Bailey-Fitwell Co. feels that it has added an item to its line which will meet with the instant approval of its customers.

Coast dealers are familiar with the high quality of the products of this concern, and the Economy cover needs no better introduction to the dealers than the fact that it is made by the same people who have for a number of years made the famous Fitwell Tire Cover.

Dealers to Mutually Advise.

Automobile men and repair men and experts of San Francisco have banded together in the San Francisco Automobile Trade Association. The object is to secure the co-operation necessary for stamping out objectionable features in the trade, hitherto allowed to continue only because competitors did not unite against them.

A great meeting will be held by the San Francisco Automobile Trade Association and the Motor Car Dealers' Association, March 16, at the St. Francis Hotel, for which Secretary Arthur D'Ettel is arranging details. Prominent business men and motor car executives will address the gathering, outlining the policies of the associations and trying to straighten out matters of interest to the whole industry.

State Show for Montana Dealers.

The Fifth Annual Montana Automobile Show, scheduled for March 15-20 at Great Falls, Mont., will be the only automobile show in the state this year and one of the largest ever held in the Rocky Mountain region.

The show is sponsored by the Montana Automobile Distributors' Association. This year the large new building erected for the local Studebaker dealer will be used, supplanting the "palm room" of a local hotel, which housed last year's show.

Makes of cars that are numerous in Montana are of a well tried and proven standard. Travel over the roads leading through the state's great length is not luxurious and it is estimated that only about one-third of the total number of American car makers are actively represented by Montana dealers.

Recent figures of Secretary of State Charles Stewart show that the 100-mile radius from Great Falls contains more automobiles than any other section of the state.

GOOD ROADS MAKE GOOD MORALS.

A darkey and his "high-brown" followed by a corporal's guard of pickaninnies, applied to the clerk of a Southern court house for a license to wed.

The clerk eyed the assemblage doubtfully. "Whose children are these?" he asked.

"Dey ourn," was the ready response from the man.

The clerk was scandalized, being new at his post. "You ought to be ashamed of yourselves waiting to get married 'til you have a family half grown."

"Jedge," interrupted the 'bride' sweetly, "de roads out our way is SO bad!"—Judge.

Mason Charmed by Coast Roads.

Arthur Mason, who was head of the Mason automobile factory in Flint, Mich., till General Motors absorbed it, is wintering in Southern California. Recently he drove to San Francisco inland, returning on the Coast route. He said it was the first time in his life that he had traveltd roads on which it was possible to step on the accelerator hour after hour.

Scheu on Way to Right Spot.

For the pleasing period of five weeks E. A. Scheu general sales manager of the King Motor Car Co., and Mrs. Scheu are ceasing to tread in the white or other-colored snow of Michigan. They are making the acquaintance of real life, on the Coast.

SHORTAGE AHEAD, SAYS J. A. TONER

Maxwell-Chalmers Vice President Is Sure Car Scarcity This Year Will Be Most Acute in History.

J. A. Toner, vice president and director of Maxwell-Chalmers, accompanied by L. A. Van Patten, president of an important New York advertising firm, recently arrived in Los Angeles. With George Pearson, Pacific Coast representative of the Maxwell Motor Sales Corp., they were guests at an L.A.A.C. luncheon given by P. H. Greer and A. C. Robbins.

There has been much talk of prospective shortage of automobiles, and the natural tendency is to discount this; but Mr. Toner's firm opinion is that even if the estimated production amounts to 2,250,000, this year will see the greatest shortage yet experienced.

Ordinarily, he said, thousands of machines are warehoused in Detroit for the spring rush. All these have been paid for already by dealers. This alone foretells shortage later. Railroad equipment scarcity is another big factor, although there is congestion. Sometimes it takes 10 days to get freight cars from the factory siding in Detroit to the main lines. Driveaways help some, but not enough. The steel situation is far from favorable and plate glass is scarce. So are bodies.

Master Carburetor in New Plant.

The Master Carburetor Co., Los Angeles, is the most modern plant of its kind in the United States and the largest and best equipped west of Chicago. This company's new factory, situated at 3000 South Main Street, and which was recently occupied, was constructed with an eye for the future and its already large output can be trebled.

Master distributors by the scores are scattered throughout the United States and abroad and it was the steadily increasing demand for the product that made necessary a factory which is a credit to such a rapidly-growing manufacturing center as Los Angeles. C. G. Harness is president and general manager and L. A. Hardie, secretary and treasurer. Lyman P. Clark is sales manager and V. C. Worden, chief engineer.

The claim of the company that the Master increases power, speed and economy by at least 25 per cent, and this with the low-grade fuel of the present day, would seem to be substantiated, judging by its wonderfully increased production. Repeated kerosene tests on pumping plants and tractors shows the perfect adaptibility of the Master to this class of fuel, it is declared.

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INNER TUBE THAT IS NON-DEFLATABLE

Amply Proven Principle to Be Used in $1,000,000 Plant in or Close to Los Angeles in Near Future.

An idea on which is based the fact that a $1,000,000 tire and inner tube factory is to be established in California, by Oklahoma men who vision the future of the Pacific Coast, is one that is recommended by past experience.

Along about the year 1892, John Palmer, then manager of a bicycle store in Chicago, walked into the office of "The Bearings," one of the early cycling journals, and exhibited the first Palmer tire, which he said was immune to puncture. He inflated it through a needle syringe, as it had no valve. He drove nails into it, pulled them out—no leak. A crowd congratulated him; said his fortune was made. It was. John Palmer's connection with this story is that—nothing more.

Now comes an inner tube for automobiles, which is made on the same time-tested principle, but more effectively. It not only is immune to puncture on the tread, but on each side. When deflated, it has three longitudinal concave corrugations. It is very easily slipped into the casing. When inflated it is round, but the tread and sides are compressed, and the thick, pure rubber, if punctured, immediately closes the hole. It is to be amply demonstrated under hard conditions by the Los Angeles fire department.

The new inner tube is that of the U. S. Compression Inner Tube Co., organized in Tulsa, Oklahoma, in May, 1918, and which announces it will erect a $1,000,000 tire and tube plant in or near Los Angeles. C. R. Privett, its Pacific Coast representative, in charge of the seven Far Western states, has opened offices in the Citizens National Bank Building. He will appoint agents throughout his territory.

All the officers of the company are men associated with big enterprises in the Southwest. The Tulsa factory will be in production in a few weeks, with an initial output of 1,000 puncture-proof inner tubes and 500 casings per day. There will be 500 employes. The factory is of brick and concrete, in the center of a 10-acre tract. This first unit will have 40,000 square feet of floor space, and will have its own spur railroad tracks, ingoing and outgoing. organization comprises experts in respective lines.

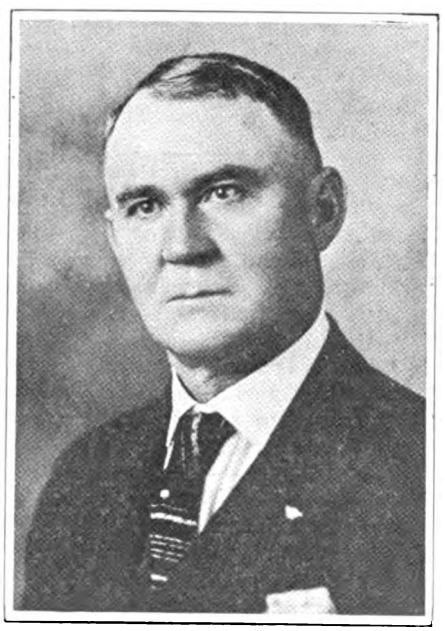
The California plant will be an exact ›lica of the Tulsa factory. It will handle all of the company's Pacific Coast and Western export trade.

M. C. HALE,
President U. S. Compression Inner Tube Co., Tulsa, Okla.

The company intends to build two more plants soon—one in Philadelphia.

M. C. Hale, the company's president, visited Los Angeles recently, investigating the industrial situation and inspecting various localities offered for his consideration. While in Los Angeles he conferred with Maynard McFie, president of the Chamber of Commerce; also with A. G. Arnold, chairman of the Industrial Bureau; and with the Long Beach, San Pedro, Pomona and Pasadena chambers of commerce, each offering first-class inducements.

Mr. Hale returned to Tulsa to discuss the project with his associates.



C. R. PRIVETT,
Pacific Coast Manager, U. S. Compression Inner Tube Co.

and will return to Los Angeles in a few weeks accompanied by A. J. Pennington, the company's general superintendent and engineer.

During his experience of almost a quarter of a century with some of the leading companies of the country, Mr. Pennington has become one of the best-known experts in the rubber industry. He has built and had under his supervision several large tire and tube plants. The new factory will be built under his direction. He formerly was connected with Johnson & Johnson, a $4,000,000 corporation of Brunswick, N. J., and the J. Elwood Lee Co., of Conshohocken, Pa. When these companies merged with the Lee Tire & Tube Co., Mr. Pennington became general superintendent of the corporation, which was capitalized at $7,000,000. While superintending the Lee plant Mr. Pennington built a large factory handling more than 400,000 tires and tubes a year. He also built and operated a rubber factory for the Brunswick-Balke-Collender Co. at Muskegon, Mich. He has been engaged in research and reorganization work with Narret & Co., of Philadelphia, during his activities in the rubber business.

J. F. Scanlon also came to the Coast with President Hale, to open and perfect a general Western advertising campaign. Mr. Scanlon is well known in the Pacific Coast newspaper fraternity, having been connected with a Los Angeles paper a number of years. He will return to the Tulsa factory, where the direction of all branches, etc., will be under his supervision.

Compression inner tubes manufactured by this company are stated to have withstood road tests, in actual service, for three years, demonstrating the value of the idea to motorists, who naturally have been amazed at their ability to withstand puncture. Comparison is made with inner tubes of the ordinary bladder type, which are smaller in diameter than the interior diameter of the casing, so that they can be easily inserted. Of course, when the tubes are inflated the rubber stretches. They are constantly under heavy stress. To illustrate this it is only necessary to take a piece of sheet rubber or tube, stretch it between the fingers and then penetrate it with a pin. The hole will be larger than the pin. On the other hand, take a thicker piece of rubber and compress it tightly between the fingers. Stick a pin in it and pull it out. Where is the hole? By squeezing the rubber, no air will leak out. Dip a pencil into a pail of water. Pull out the pencil. The hole is gone.

That is the principle upon which the U. S. Compression Inner Tube is constructed. When it is penetrated by a nail, pull it out—the hole's closed.

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PACIFIC STATES HIGHWAY DOINGS

New Secretary of Agriculture Is in Favor of Extending Federal Aid on More Liberal Terms.

Secretary Meredith of the Department of Agriculture, which administers the Federal road aid act, favors continuing the aid at $100,000,000 annually for four years after the present appropriations cease in June, 1921. He also favors better than the present 50-50 basis on which the aid is obtainable in Western states, in which from 15 to 90 per cent of the state's area is withheld from development by the government.

Agitation has been started in Tucson, Ariz., for an international highway from there to Guaymas, Sonora, Mexico. The people of both countries, in that section, understand each other and the proposed highway would help, commercially and politically.

A road of disintegrated granite is to be built to the top of San Francisco peaks, 15 miles from Flagstaff, Ariz., this summer by the Department of the Interior.

By next summer, Portlanders expect to drive all the way to San Diego, some 2,000 miles, "on the high." Oregon's road funds will be increased nearly $3,000,000 in 1920 by taxes on licenses, gasoline and oil.

Butte County, Cal., will spend $1,800,000 on new roads in the next three years.

Utah's road-building program is hindered by high costs and, on the other hand, need of discounting highway bonds. A $500,000 project on the Arrowhead Trail may proceed this spring. This is part of the great intermountain highway project to connect Canada and the Mexican line.

Charges of incompetence against the highway commissioners of Imperial County, Cal., delayed beginning the system of roads for which bonds were voted.

Surveying has begun for Walker's Pass road, over the Sierras, to connect the Midland Trail (Roosevelt National Highway) with Bakersfield—a mountainous short cut, compared with driving south to Mojave, then north on the west side of the range.

A dinner speaker told Coloradoans that in traveling 56,000,000 miles over their roads last year they spent $12,000,000 for tires, and that in the 25 years of the proposed $25,000,000 bond issue for better roads they would save three times that sum in tires alone.

Survey crews are working in four counties near Helena, Mont., and construction on 250 miles of road is expected to begin in the spring. A paved road from Helena to Anaconda, 23 miles, is the principal one planned.

Some counties in New Mexico have been authorized by the special legislature to make special levies for highways, one being 125 miles through Socorro County to the Arizona line. The state will vote on a $2,000,000 bond issue next fall.

Contract has been let for 10 miles of concrete north from Albuquerque, to cost $285,000, as a section of the state's main East-and-West road.

Nevada soon will begin cutting its state highway through the rock on the shore of Walker Lake, to connect Reno and Carson City. This formation is the greatest geologic "fault" in the world. The state's only North-and-South main road will connect Las Vegas, Nev., and Beatty, 120 miles, on the bed of an abandoned railway, bought by the state for $3,200. It will save coming from that part of Nevada to Los Angeles or San Francisco, to reach Reno.

The Blue Mountain Tri-State Highway Association has been formed to connect the Northeastern section of Oregon, Southeastern section of Washington and Northwestern section of Idaho with a good roads system, estimated to cost $750,000.

Spokane, Wash., is preparing to connect its business district with the county system for which $3,225,000 was voted in bonds.

Idaho recently sold a batch of highway bonds totaling $500,000 at par, bearing 5 per cent interest. California's troubles in this respect, in the effort to sell a $12,000,000 batch, were due to the interest being only 4½ per cent.

Air Compressor of Quality.

The two-stage principle in an air compressor is in the use of opposed high and low pressure cylinders. It gives greater compression and saves power. Two sizes are made by the Pacific Air Compressor Co., 917 South Grand Ave., Los Angeles—one of four cubic feet per minute delivery, for regular garage and filling station work, and one delivering 10 cubic feet per minute, for larger garages, dusting, spraying of motors, paint spraying, etc. Strong points are economy, dependability, quietness, enclosure of all working parts, etc. The makers claim an advantage of 50 per cent of power pumping against 150 pounds, or 65 per cent against 200 pounds, over any single-acting pump, and 20 per cent more efficiency than any other two-stage compressor. The full unit can be put on castors and pushed around the plant. Quality is indicated by the fact that recently 500 parts, only 1-5000th-inch off exact size, were discarded.

James and Rose Divide Business.

W. M. James sales manager, and Jules Rose, in charge of the laboratory and manufacturing part of the Everlasting Mfg. Co., 528 Pacific Bldg., San Francisco, producing Everlasting tire repair kits for motorists, have dissolved partnership. Rose has bought James' interest and will continue to operate the business. James, who is Western manager for the Century-Plainfield Tire Co., will devote all his time to the distribution of these tires, with headquarters at 523 Pacific Bldg., San Francisco.

Sills Coming to Coast.

W. C. Sills, Chevrolet general sales manager, is due to reach this border of the continent March 18, to see the Oakland plant and Coast branches.

Makes Night Driving a Pleasure.

The Rain-Sun Vision Shield Co., 511 West Tenth St., Los Angeles, recently organized, has what Manager Albert Garside and Secretary Carl L. Gardner feel sure the motoring public will seek as a good thing—the Rain-Sun, a clear-vision shield for the open car, or the car with a top. Easily hinged to the top of and in front of the windshield, it swings down from a horizontal position to any angle. Sun rays passing through it are filtered and their heat absorbed. It is semi-transparent or opaque, dark green, brown or, blue, as desired. One can drive directly toward the sun, or approaching violators of the anti-glare laws at night, with ease and comfort. Patent has been applied for.

L. A. Truck Show Outlook.

Numerous applications are reported, for space in the motor truck show to be held in a large tent at Praeger Park, Los Angeles, March 27-April 3, and the management expects all available space will be filled on the opening day. The accessory exhibit will be an important feature. It will include oils, lubricants, batteries, carburetors, bearings, piston rings, all of recognized, standard makes.

A New Clear-Vision Shield.

The Rain Vision Shield Co., 511 West Tenth St., Los Angeles, has just placed on the market a new patented clear-vision shield for which many benefits to the driver are claimed, and are receiving many callers and advance orders on the shields they are displaying.

Morrison Delco Manager in L. A.

A. E. Morrison, formerly of Detroit, and in automotive lines since their Year One, now is manager for De Jough & Cochran, Los Angeles, distributors of Delco light products.

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Motoring Along Santa Barbara County Coast Line

The Winter Home of America's Millionaires. This region is Replete with Scenic Marvels—Beautiful Vistas Meet Eye at Every Turn, and Roads are Delight of Motorists Who Visit This "Naples of the West."

WITH a western and southern shore-line approximating 120 miles in length, Santa Barbara County's sea-front is not eclipsed in mileage by any of the fourteen California counties touching on the Pacific Ocean. Its 2740 square miles of area, about one-half of which is mountainous, embraces a grandeur of scenery which has long been a magnet for tourists and travelers both from Europe and America. Owing to topographical conditions, the bulk of the highways in the county follow the valleys. Short stretches of mountain roadway holding exceptional scenic possibilities are found, but the State Highway, the trunk line route from Ventura County on the south to Santa Maria, at the border of San Luis Obispo County to the north, is a road of but few unusual grades, and an easy one to travel in a motor car.

Beginning at the Ventura County line at Rincon Creek, this causeway includes a part of the noted Rincon Drive. This drive takes one within sight of the ocean almost all of the way from Rincon Point to Santa Barbara. A more beautiful piece of roadway can scarcely be imagined. Inland rise the foot-hills, rapidly ascending towards the mountains, and over the mountain peaks float cloud or mist, purpling into shadow as the sunset approaches, or bathed in molten gold in the rays of the noon-tide sun.

Seaward there is a never-ending panoramic change of picturesque novelty. Long rollers curve in, tipped with snowy crests, and break on the low beaches into shimmering webs of threaded silver. Back of them the great heart of the Pacific beats, sending these liquid pulsations inland with unvarying regularity. All day long the curlews fly from point to point, or stalk lazily along the sands feeding in the receding shallows along shore. Flocks of sandpipers are occasionally seen, whirling by in a mass of greyish hue, their rapid flight carrying them swiftly out of sight. High up, a solitary pelican is sometimes poised, soon dropping like a plummet to the water to seize some luckless fish, while a wandering sail may infrequently be sighted, veering and tacking beyond the tumbling billows.

This portion of the State Highway is an endless delight to even the most "case-hardened" globe-trotter. It passes by Carpinteria and Summerland before reaching Santa Barbara city. Approaching Santa Barbara, it affords many views of superb residences on both sides of the roadway, close to the Coast. Reaching Gaviota, some 30 miles from Santa Barbara, the highway trends sharply towards the north, to Las Cruces. From Las Cruces it turns northwesterly, then due north, and then for a short distance northwesterly again until it reaches Zaca. Leaving Zaca, the road winds in a northwesterly direction to Harris Station, and from there goes north to Santa Maria, on the border-line between Santa Barbara and San Luis Obispo Counties.

This skeletonized outline of the State Highway through Santa Barbara County gives, of course, nothing but the

ON THE BEAUTIFUL SANTA BARBARA COAST ROAD. AMONG THE FOOT-HILLS IN SANTA BARBARA CO.

AT THE SANTA BARBARA-VENTURA CO. COUNTY LINE. LOOKING SEAWARD FROM SANTA BARBARA'S BEACH.

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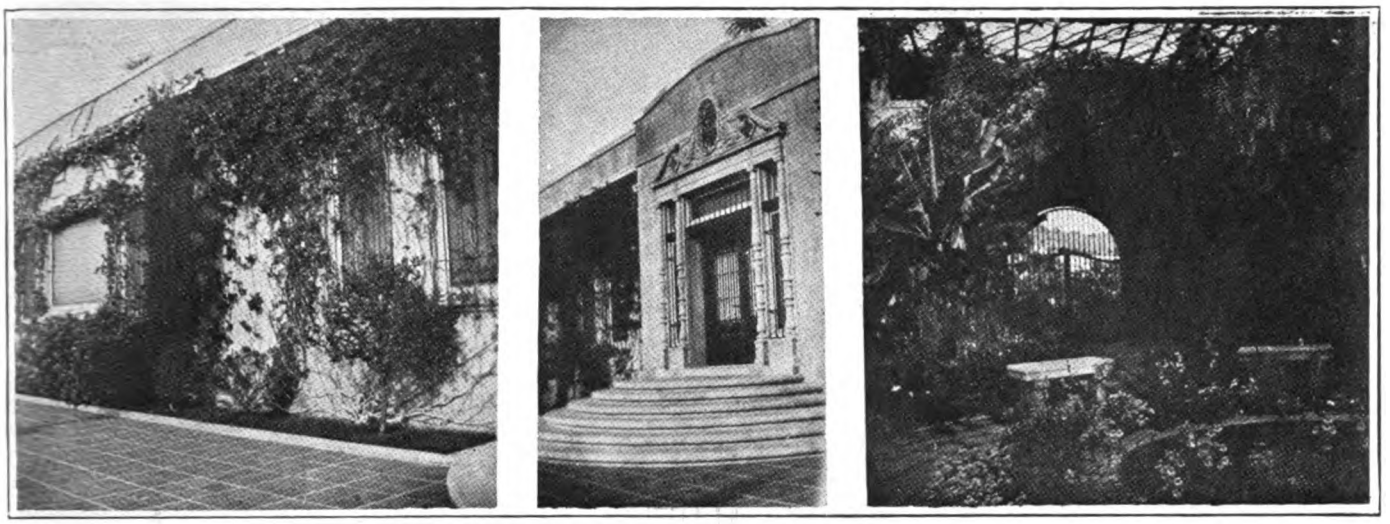


FRONT VIEWS OF A TYPICAL SANTA BARBARA RESI DENCE—INNER COURT OF THE SAME RESIDENCE.

approximate course of the roadway. Its length is about 113 miles. Out of this there remain at present some 14 miles unpaved. This stretch lies between Las Cruces, nearly in the center of the system, and Zaca, which is almost directly north of Las Cruces. This unfinished link will probably be paved during the coming year, according to the State Highway Commission's forecast of the situation. Once completed, it will give a magnificent scenic and commercial highway through the entire length of Santa Barbara County. It traverses Carpinteria, Santa Barbara, Goleta, Los Alamos, San Antonio and Santa Maria Valleys in its course, all of which are remarkably fertile valleys, producing millions of dollars' worth of agricultural products annually. Very little climbing is necessary in covering the entire route. The road from Las Cruces to Zaca, crossing the Nojoqui Grade, is the only stretch of highway where the passage might be termed difficult.

All along this highway the traveler will find scores of scenic marvels following and blending into one another with kaleidoscopic brilliancy. He will turn from vista after vista of deep-caverned oak-clad canyons, to mountain summits cloud-capped and fading into the blue; and by a mere turn of the head he will be enabled to look far out at sea and view long lines of breakers flashing and curving along the shingly beaches. There is something about Santa Barbara County almost enigmatical in its haunting loveliness. Each valley seems like the enchanted valley of Rasselas; each vista of undulating ocean-curve,

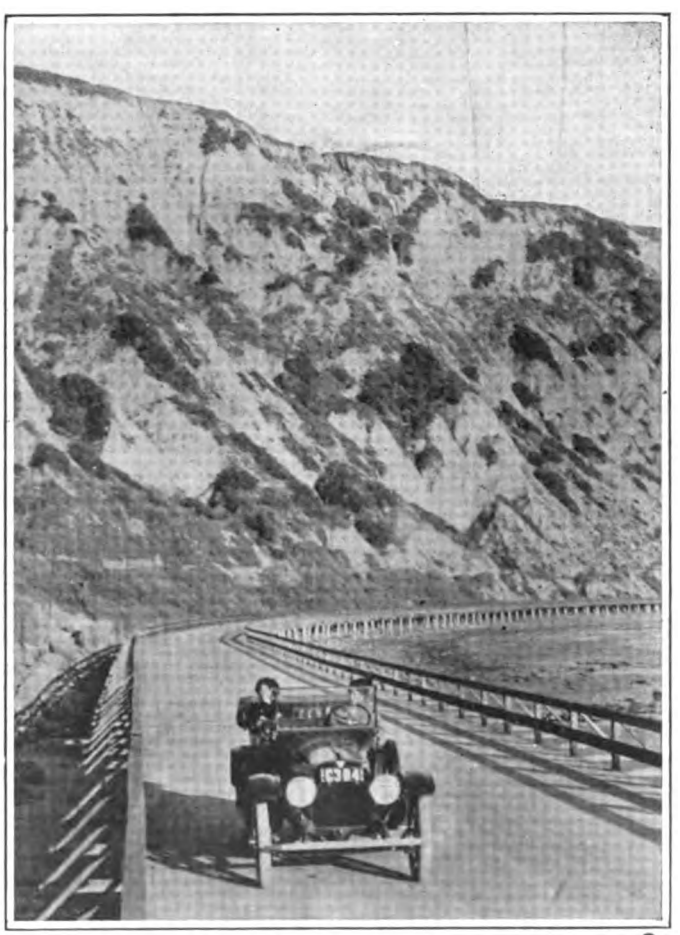
"Charm'd magic casements opening on the foam
Of perilous seas in faery lands forlorn."

There is, too, the infinite joy of flower and fruitage to entrance the beholder. The contrast between these Eden-Valleys and the ice-bound country of the Mid-Western, Northern and far Eastern States can only be appreciated by one who has experienced those differences in mid-winter months. To such a wanderer, far from the delectable land of Santa Barbara County, and locked in the grip of relentless January inclemencies, will come readily the stanza affording the comparison:

"For you the fig and olive shine
The green leaf spreads, and waters run,
With trailing banners of the vine
And gleam of lizard in the sun;
For me the leafless tree and black
The iron weight of winter's ire,
And some cold meteor's baleful track
That sails beyond a wake of fire."

Every mile of this highway was long ago thoroughly sign-posted and protected by the signs of the Automobile Club of Southern California. Signs of warning, signs of direction, curve and grade signals, railway crossing signs and warnings, cross-road and city signs, everything to guide and give information to the traveling public. With the final touch of a completing of the unfinished strip between Las Cruces and Zaca, this will easily be one of the most notable highways in America.

And like a diamond in this mystical environment, the city of Santa Barbara sends out from many dazzling facets a radiant light of serene and unparalleled beauty. Poets



ON THE RINCON CAUSEWAY, EAST OF SANTA BARBARA.

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VIEW ON MILLIONAIRES' WAY, SANTA BARBARA TO GOLETA.

A STOP AT THE OLD SANTA BARBARA MISSION.

ONE OF THE WELL-KEPT OAKS ON MILLIONAIRES' WAY.

have sung its praise, and artists have painted its glories: but like Rome, the city must be seen to be fully appreciated. On the heights of Montecito, standing midway between the mountains and the sea, a man may well lose himself looking out on one of nature's masterpieces, a canvas of never-to-be-forgotten coloring. This is particularly true as the home-bound birds dart past, and all the west is illumined in the golden lightning of the sunken sun, with the ghost of a sentinel star faint-twinkling through the gathering shadows.

For then the sea-girt islands of Santa Rosa, Santa Cruz, Anacapa and San Miguel are etched like cameos on the sleeping water, and the grey wings of circling gulls are fading with the fading light. Words cannot describe, language cannot interpret the fascination of such a picture. It brings back the earliest recollections of the city's history. Days when the sober-browed padres worked among their dark-skinned followers; days of primitive toil and spiritual aspiration; days when the sight of the uplifted cross seemed strange beside those azure seas. And so gazing, the stranger may listen for, with the ear of fancy, mayhap, the tolling of the Mission Bells.

"Here are the Mission's rafters old
Cobwebbed vistas enwrapped in gloom,
Shadowy cloisters damp and cold
Haunts where the spider plies her loom;
Lonely pathways from room to room
Altars where only memory dwells,
And plaster falling in dingy spume
But where is the sound of the Mission Bells?"

Perhaps no other city in the United States is so favorably situated, all things considered, and this is one of many attractions which bring to Santa Barbara every year so many home-seekers—some who build palaces, and many who build comfortable and substantial homes; all enjoying to the utmost the ideal surroundings which the city gives to its residents.

To the visiting tourists the side trips over convenient highways and mountain trails will offer a bewildering variety to choose from. He may travel from foothills to canyon, and from the canyons to the sea, and find a constant succession of outdoor changes of unending attraction. A number of these trips can be taken in an hour or so, and are all delightful. Inquiry at the offices of the Automobile Club will give strangers accurate and comprehensive information as to the best means of covering these by-excursions. The sea-shore, the old Missions, the valleys, forests, lakes, rivers, mountain streams and the farming and fruit-growing districts can all be readily visited, and all are infinitely well worth visiting.

The rainfall in the county, about 18 inches annually, falls usually between November and May. Clear and bright weather is the rule, with an invigorating sea-breeze. Horse-back trips up the canyons and the lower foothills are one of the angles of special enjoyment for those fond of the saddle, and "hiking" is also a popular method of getting into the hills and valleys. The many modern-paved roadways extending in every direction from Santa Barbara city to its environs and suburbs give motorists every opportunity of seeing the city and the surrounding country under very favorable conditions.

Santa Barbara has long been famous for its exquisite homes, and numbers of these are really ideals of residential splendor and repose. Some of them are reached by winding roads that lead the visitor to commanding heights far above the city. And flanked on one side by wide chasms of oak-bordered canyons, above by gigantic mountain ranges, and below by the city and the sea, one might easily imagine himself in fairy-land, so remote and withdrawn does he feel himself to be from the outer world. Occasionally these homes have cool, vine-embowered inner courts, with fountains splashing upward softly in the stillness; and when the clouds part at midnight, and these spaces fill suddenly with silvery vapor, it brings visions of

"The melancholy moonlight, sweet and lone
That makes to dream the bird upon the tree,
And in their polished basins of white stone
The fountains tall to sob with ecstasy."

Santa Barbara's manifold attractions embrace innumerable opportunities for out-of-door sport, ranging from golf, polo, sea-bathing, yachting, and mountain climbing, to shooting and fishing. The latter includes both trout-fishing and deep-sea angling. The well-built roads are of course a signal advantage in this respect, and the comparatively

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easy access to, and the nearness of the shooting and fishing districts give additional facilities to all followers of gun and rod. Trout streams in the mountains, and the Pacific close at hand give the angler his choice of fishing, and deer, wild-fowl, quail and doves afford varied diversion for both rifle and shot-gun.

To lovers of the antique, Santa Barbara is a treasure-house of reminiscence and historical value. It received its name over three centuries ago, Sebastian Vizcaino having sailed up the channel in 1603 and christened the Indian village he discovered on the mainland with that name. It was not until 1769, one hundred and fifty-six years later, that the Spaniards occupied California with a formal claim to its possession. The founding of the Mission really marked the birth of Santa Barbara, which is now 133 years old—as young as youth, and as old as Time.

Among many ancient landmarks is the quaint old home of the De La Guerra family, where Richard Henry Dana and his fellow sailors were entertained as related in "Two Years Before the Mast." The old Mission, established in 1786, is undoubtedly the most interesting of all the local curiosities, and is yearly visited by thousands of sight-seers. It is said to be the largest and best preserved of any of the California Missions, and for over a century past the lights on its altar have never ceased to glow.

"How far that little candle throws his beams;
So shines a good deed in a naughty world."

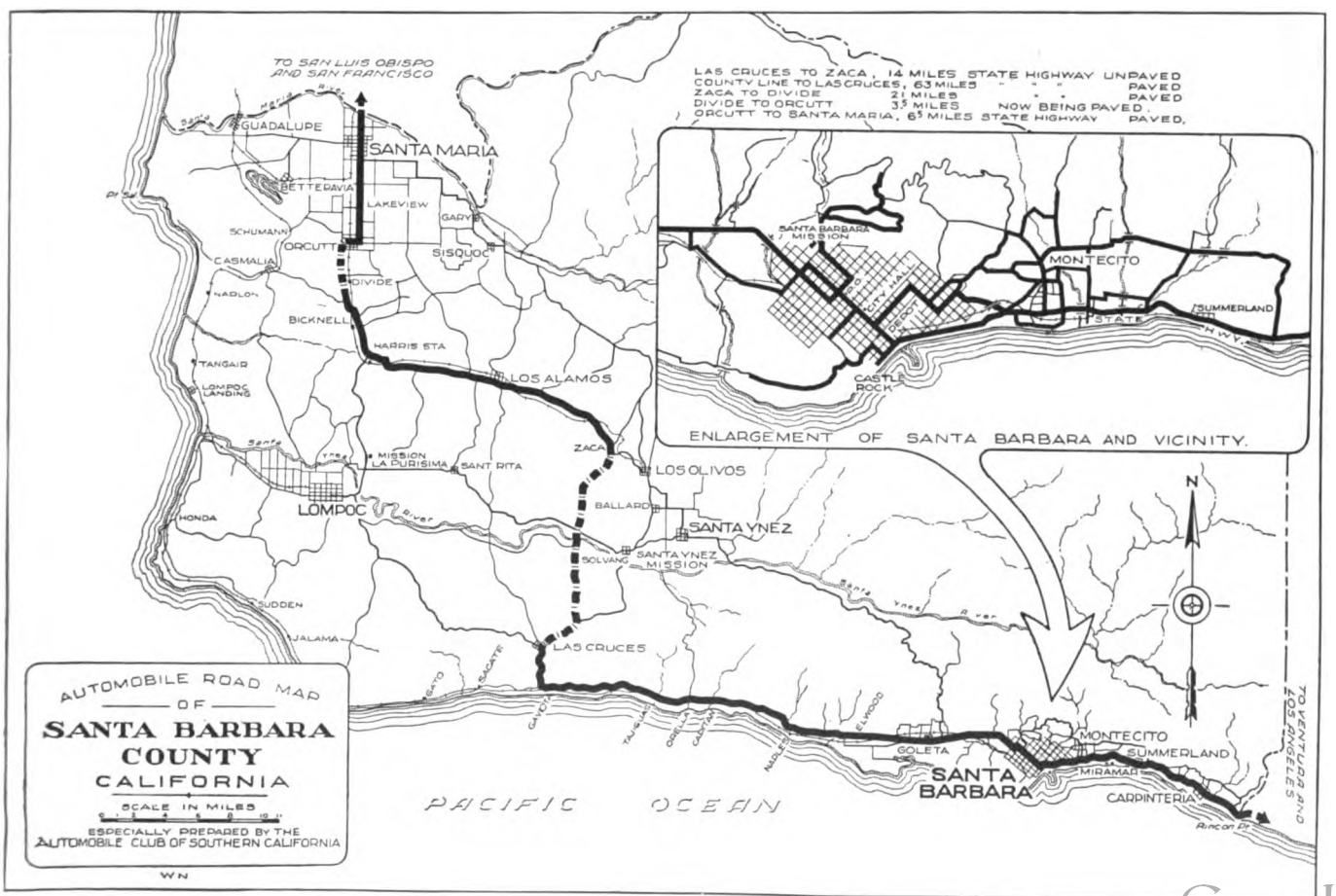
The Santa Maria, the Santa Ynez and the Sisquoc rivers are the main streams in the county, with a drainage area close to 2,000 square miles. In the Lompoc Valley, drained by the Santa Ynez river, and justly celebrated for its wonderful beauty and fertility, the people of the district are now contemplating building a modern-constructed highway from the neighborhood of Solvang, at the State Highway, to Lompoc Junction on the Coast, near the mouth of the Santa Ynez river. This road when completed will serve more agricultural tonnage per mile than any other highway within 200 miles. It will also bring a superb scenic district to the knowledge of the tourist and traveler.

Santa Barbara and Santa Barbara County, while already of both national and international repute, are destined in the future to become even more famous. Good roads will be the controlling factor in the advancement of both city and county, and Santa Barbara was a pioneer in the modern highway movement in California. The county has still many diversified marvels of natural beauty which remain to be explored and enjoyed, as the highways are constructed and extended. Taken in its entirety, the county has more than the grandeur of Switzerland, or the diversity of scenery in any country in Continental Europe. It has the eternal panorama of the sea, the cathedraled stateliness of mighty forests, the flash and mists of dropping mountain torrents, lakes, rivers, and winding canyons, and blending with all these the pastoral charm of orange and olive-crowned lowlands shining in the sunlight.

"Only the Gods are great,
Only the heavens are high."

There is only one Santa Barbara, even in California, and it rests where the broad ocean leans against the land; encircled by the hills, rock-ribbed and ancient as the sun, a city of rare and surpassing individuality—a jewel in its setting of varying lights and shadows—a veritable dream-city, the Naples of the West.

The Ohio Good Roads Federation has a committee on parcels post routes, which will co-operate with the Post-Office Department.



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THE MOTORING AUTHORITY OF THE PACIFIC COAST

Established 1907

AN ILLUSTRATED AUTOMOBILE MAGAZINE OF QUALITY, ISSUED SEMI-MONTHLY.

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MARCH 15, 1920

A Cordial Invitation to Automotive Men

Hotel accommodations, East and West, are uncertain. It's inconvenient as to mail. Have it sent care "Motor West," with forwarding instructions or to hold for you. While here, use our extra office facilities. You're welcome.

Some Heartfelt Remarks on Production

MOST of us are more or less like sheep—rather more than less. Wherever cotton can be grown, it is being grown; in Arizona, as noted by Mr. Seiberling, head of Goodyear, to the extent that food production is below normal.

In the absence of a form of co-operation that is quite as possible as having other public interests served, by which there would be accurate knowledge of prospective demand, and of economic balance generally, nobody can be blamed. Also, temporarily the majority will be benefited by overproduction of cotton. The majority, just now, would welcome overproduction of everything, especially food, from the earth. The temporary sufferers would be the 13,000,000 actual workers of the soil, mentioned in a remarkable interview in this issue with A. H. Kroh whose results, if he had the same public power behind him, would be far greater than any Hoover has accomplished.

Production is Mr. Kroh's slogan. He would have many more of our young men go to agricultural colleges so that more will go to the soil to motorize and otherwise revolutionize farming; to be the prevailing factors in improving our distribution, insofar as transportation can do it; thus starting the saving of this nation from the fate of Babylon—which, like Los Angeles, was populated largely by farmers who made their piles "in Ioway" and came to town to be drones and die of liver-complaint and other results of non-production.

Yes, we would all welcome overproduction **now**; but **on the whole,** we much more sorely need balance between supply and demand, as to production. Also, and quite as important, we need such distribution as will enforce fairness between production cost and the price the consumer pays.

To disseminate knowledge on distribution we need another Kroh. It is a problem that will be solved everywhere, in time. It was solved many years ago by many thousands who, however, are a very small minority. We mean the co-operatives, whose basic principles, minus any isms, are available to all. In England, they long ago progressed beyond mere co-operative buying on a retail basis. For years they have had their own distant plantations; their own ships to carry the products to their factories; their own distributing centers and, as in the beginning, their own retail stores. They operate on precisely the principle which governs building loan associations and on which our thousands of army canteens were operated in France.

First, we must produce more from the earth. More young men must be educated for agriculture especially. As Mr. Kroh truly says, they will shape the future, which is not being shaped right now. In one state, New York, last year, 35,000 persons moved from country to city; only 11,000 from city to country. Agricultural college education will help cure this **by placing farming on a much higher plane**—scientifically, economically, socially. College men introduce college ways; better ways, surely, when they come from colleges in which they will become masters of the wonders of the soil.

After production, then distribution. Vast but easily handled problems if we will go at them right. The majority has not yet awakened. It will. We are confident it will do this before, not after, the hand of time has passed the too-late mark.

Coast Deserves More Shipping Consideration

APPROXIMATELY, the Pacific Coast has one-sixth of all the registered motor vehicles in the country; California about one-tenth of the national total.

It is human to see, and be influenced by, what is nearest. The Pacific Coast is a long way from most of the manufacturers, and while it has fascinations hard for our friends back East to resist, it does not seem to have for them the enchantment which foreign fields seem to have, commercially, when they look beyond their relatively close-in domestic field.

This is not only a great mistake, from their own pocketbook point of view, but it is not fair to the progressive people of the Pacific Coast. Too many shipments do not go far enough from the factories. A longer vision is necessary.

As to Where Glidden Tour Shall End

THE final Glidden tour is to be run across the country in September. A main section of trade entrants will make the long journey from New York, and probably an owners' section as well. All, we are sure, will want to see both Northern and Southern California.

Therefore the Los Angeles dealers are asking that the tour be continued after it reaches San Francisco, so as to end in their city, instead of being disorganized prematurely. They believe the contest board chairman of the American Automobile Association, which will conduct the tour, takes an untenable position in wishing their city to be off the itinerary because its automobile club and the A. A. A. disagreed on contest rules, years ago.

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Perhaps the illogical reason ascribed to Mr. Kennerdell will help, instead of hinder, the argument that the good of the trade, which is the trade reason for the tour, should be the prevailing factor. Probably, also, Mr. Kennerdell's reason will not prevent the diplomatic, co-operative A. G. Batch[illegible]der, chairman of the A. A. A. executive board, from re-establishing amity with the Automobile Club of Southern California; for which purpose, we understand, genial "Batch" soon will head westward.

About Landing Places for Airplanes

SOME thinkers get paid for thinking. Wisner Gillette Scott of Bishop, Cal., whom many give credit for "putting through" the Tioga Pass road, which saves thousands of miles of extra travel to and from the Yosemite, think all the time for the public, without pay except in the satisfaction of good work well done; which is nourishing, in a way.

Mr. Scott, pondering on the increase in airplanes, and the need of landing places, and the plea to cities and towns to provide them, and the fact that many towns are smaller than the mile-square area required for Government uses, evolved what he modestly termed a "little idea." It probably will turn out to be a very big little idea.

Mr. Scott suggests that, at intervals of say 50 miles, the highway for a distance of say 1,000 feet be swerved to the left, to the edge of the right of way, and that the right of way on the other side be widened somewhat for the same distance. The highway would be easily seen by fliers, who should have no difficulty in landing and running their machines to the far end, or, they could turn them off into the hangars, landing place to be further widened for that purpose.

The idea has been put before Congress as part of each of two bills, drawn by Mr. Scott and introduced by Representative Raker; one being for a national highway system, the other for a War Department survey of Coast roads with a view to making them available for military defense purposes.

Can the Boy-on-Burning-Deck Stuff!

ONE Los Angeles newspaper had two reports of the meet which opened the new speedway. One was a good report, by its automobile editor. The other was by a star reporter who glitters when he writes expose stories. It was as nearly hair raising as the perfectly conducted, though speedy race, would permit. The only story in the only other morning paper was also of the gooseskin variety.

In both automobile racing and aviation, the time has passed for that sort of stuff. To a far greater degree than the general public knows—because the newspapers do not tell it—motor vehicles which run on the ground and through the air are safe and sane, compared with the underpinning of the average pedestrian who "stands on his rights" and incidentally runs amuck and causes most of the accidents. Many of him are as they are, as the result of unintelligent word painting.

One Way to Dodge Show Dangers

QUITE out of the ordinary was the experience of possible buyers of motor trucks who, during the Chicago show, examined the exhibit of the United States Motor Truck Co., of Cincinnati, which monopolized the entire lobby of Hotel Sherman. Examining the line, and sitting down in a warm lobby to go over specifications, was the height of luxury compared with the climatic and traveling rigors generally associated with shows held in the winter time.

Unfortunately, not every exhibitor can have a whole hotel lobby for his purposes. On the other hand, something should be, if it can be, done to lessen the barbarous conditions which affect every national show, and which colorful decorations and sweet music cannot melt away. The time will come when the decimating practice of today will be likened to the hardships of long ago which we of this period consider unthinkable.

Don't Wear Out the Poor Unit

FADS run their course, as a rule; but if someone will head off the indiscriminate use of the word unit, nearly everybody who does not so use it will arise in his place and say thank you, very kindly.

A physical unit is a value or magnitude conventionally adopted as a unit or standard in physical measurement. An absolute unit is one which has an unchanging value at all times and places. There are mechanical units, magnetic units, electrical units, a multitude of other units—and automobile units; and what automobile units are would fill a book. They are anything from a bolt to a complete car, or building. Everybody's doing it—no matter what part a man makes or plays, he is a unit maker.

What's neded is a little unitarianism, as to the specific meaning of unit. This will involve a little elimination, segregation and other factors which will tend toward calling a spade a spade, and other things by their right names.

Praise from Sir Hubert, This Is

T. E. MYERS, manager of the Indianapolis track, is of the opinion "that the orange-and-blue coloring of the woodwork at the Los Angeles Speedway is much less trying to the eyes and nerves than our green-and white at home."

Similar comment was made by Easterners at the San Francisco show, where the mural decorations not only were genuine art but were in neutral, restful shades of color, instead of being ludicrously strong.

All of which is naturally pleasing to us of the wild and woolly West.

Calendar of Coming Events

March 15-20—Great Falls, Mont., Fifth Annual Car Show. Studebaker Bldg., Auspices Montana Automobile Distributors' Assn.; A. J. Brandenstein, Mgr.

March 15-21—Seattle, Wash., Automobile Show, Pioneer Auto Garage; Wm. J. Coyle, Mgr.

March 21—Los Angeles Speedway, Beverly Hills, Cal., Races.

March 27-April 3—Los Angeles Motor Truck Show; R. M. O'Neill, Mgr.

March 30-April 4—First Annual Pacific Coast Automotive Equipment Assn., Auditorium, San Francisco, Cal.

April 21-28—First Pacific Coast Aeronautical Show, Auditorium, San Francisco, Cal.; Auspices Pacific Aero Club

May 7-8—Fourth Annual Los Angeles-Camp Curry Economy Run.

May 31—Indianapolis, Ind., Speedway, 500-mile Race.

July 5—Tacoma, Wash., Speedway Race.

August—Elgin, Ill., Road Race.

September—Glidden Transcontinental Tour, New York to San Francisco.

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Trackless Street Pictured

Logical Reasons Given Why Elimination of Trolley Car is Inevitable and Why Motor Bus Profits Pile Up

DAILY it becomes more apparent that the motor truck has sounded the death knell of the street car. The way the makers of Clydesdale trucks put it is interesting.

Traffic congestion in large cities, it is pointed out, make the street car just as awkward and unnecessary as its predecessors, the horse car and the stage coach, and it will not be long before the large cities are trackless and free from the unsightly and abominable overhead wires with their appurtenances.

A single street car out of order can hold up traffic for hours. When a motor bus is out of order, the passengers are simply transferred to another bus, and the derelict is repaired at their leisure by a wrecking crew or hauled to the garage. There is no break in the service, whose strength lies in its constancy. A fire can hold up an entire street car system, but motor buses are not subject to the limitation of tracks, and they can readily change their route to another street when one is closed to them.

Motor buses mean faster service. While one bus is taking on passengers at a corner, the bus following can keep on going and pick up the passengers at the next corner. There is no waiting for one car to complete its loading and discharging of passengers before those behind can go ahead. In this way every motor bus bears its full share of the day's work, and the spectacle isn't seen of some crowded to the roof, while others go by empty.

The motor bus is the poor man's limousine. It gives him all the comforts and delights of closed-car motoring, with none of the expense. It is swift, sure, silent, comfortable, and even luxurious.

What astonishes street car companies, unable to even meet their dividend requirements, is the appalling cheapness of motor bus transportation. Statistics procured by the Commissioner of Plant and Structure in New York showed that 100 buses operating on a 5-cent fare basis would pay a profit of $376.80, after allowing for every expense, including 30 per cent for depreciation.

The Fifth Avenue line of buses in New York charges a 10 cent fare. This company has been highly successful from its beginning. Subjected to the fierce competition of three different four-track subway lines, and a number of elevated and surface routes, it not only survives, but continues to roll up dividends year after year. People prefer it to street cars, and are glad to pay the higher fare.

City transportation of the future will consist of subways, working in conjunction with motor buses. As for the street car, it is now in its decadence, and must give way to the modern motor truck, easy to operate, efficient in all kinds of weather, economical, and, most important, standing high in the graces of the riding public.

May Form Advertising Managers' Council

An advertising managers' council may be formed by the Motor and Accessory Manufacturers' Association. An important meeting of advertising executives will be held in New York March 26. The idea is, a clearing house for constructive co-operation on advertising problems peculiar to the needs of the more than 300 members of the M. & A. M. A., which have little in common with those of the soap man or Victrola man, as it is expressed by E. C. Tibbitts, Goodrich advertising manager.

The plan is not to clutter up the proposed council, but to have it meet monthly or bi-monthly and start things by discussing the advertising agency; appropriations; relation to sales departments; dealer helps; developing advertising personnel; technique in copy, art work and layouts; sharing expense with dealers; publicity; comparing costs with results; show problems; foreign trade, and so on.

It is proposed to have a monthly bulletin from the M. & A. M. A. general office to be a medium of ideas.

Automobile Registrations in Canada

In the nine provinces of Canada, in 1919, there were registered 355,433 automobiles and motor trucks. The 1918 total was 269,727 and the 1917 total 198,739. During 11 years the total has doubled every two years. Based on the 1911 census total, 7,206,643, the 1919 figures indicate one automobile for every 20.4 persons. The heaviest percentage is in Manitoba, Saskatchewan and Alberta, which totaled 1,698,220 population, by a special census in 1916. There were registered in these three provinces in 1919 a total of 122,922 motor vehicles—one for every 13.8 persons. Ontario has more than any other one province—151,754. Two-thirds of all automobiles in Canada are in rural communities.

Pocketbook Patriotism Works Two Ways

French automobile manufacturers, influential in the Chamber of Deputies, were for prohibiting the importation of American automobiles. The people, however, rebelled at this, and with exactly the same motive—their own profit—recently induced the legislators to reduce the duty on American cars from 70 to 45 per cent. This is a tribute to American quality, though scarcity of French delivery also is a factor. French makers prefer individualism and idealism to quantity production and sameness. Moreover, they are short of machinery.

In the French buyer's choice of automobiles, economical operation is important, as gasoline costs $1.25 a gallon.

Elgin National Road Race to be Run

America's great annual road classic, the Elgin National road race, will be run again in 1920. It will be promoted by the Chicago Automobile Club and the Elgin Road Race Association, and will be for motors of 300 cubic inches and under, if present plans are adhered to. The prize money may amount to $10,000. The course is completely enclosed and admission is charged to all the farm lands along the route, the promoters sharing with the farmers If the 1920 race is a success a permanent grandstand will be built.

Boston Show Well Patronized by Trade

Fifty-three companies, members of the Motor and Accessory Manufacturers' Association, are exhibiting at the eighteenth annual Boston automobile show, in the Mechanics Building, March 13-20. It is the fifth time the association has thus used shows this year, including the two national shows, the national tractor show in Kansas City and the Twin City show at Minneapolis.

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JOHNSON'S CARBON REMOVER

In

YOU can keep your motor snappy and full of "pep" by ***preventing*** the accumulation of carbon. Don't wait until your engine is choked and caked with it. Use Johnson's Carbon Remover every 500 miles, then the carbon is removed while it is soft and powdery, eliminating the frequent grinding of valves and ***keeping*** the motor ***always*** clean. No experience or labor required—you can easily do it yourself in ten minutes—and the cost is trifling.

Easy — Clean — Safe — Quick

Johnson's Carbon Remover is the easiest, cleanest, safest and most satisfactory remedy for carbon. It will save you from $3.00 to $5.00 over any other method without laying up the car. A dose of Johnson's Carbon Remover, the engine laxative, will stop that knock—quiet your motor—save your batteries and reduce your gasoline consumption 12% to 25%.

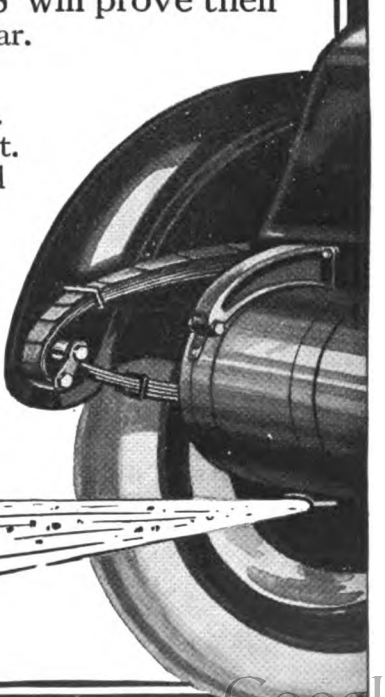
Keep Your Car Young with Johnson's Car Savers

Start today to reduce the depreciation of your automobile. An hour or two every month and JOHNSON'S CAR SAVERS will prove their value in dollars and cents when you come to sell or turn in your car.

Johnson's Radiator Cement—liquid.
Johnson's Stop-Squeak Oil—a wonderful spring lubricant.
Johnson's Valve Grinding Compound—gives a velvet seat.
Johnson's Cleaner and Prepared Wax—make body, hood and fenders look like new.
Johnson's Black-Lac—the perfect top dressing.
Johnson's Auto-Lak—a splendid one coat body varnish.
Johnson's Hastee Patch—can be applied in two minutes.

Write for our folder on "Keeping Cars Young"—it's free.

S. C. JOHNSON & SON - M W 3, Racine, Wis., U. S. A.



Out

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Power of Repetition Told

How Tillinghast, Single Tube Tire Maker, Got Others to Help Capture Trade by Continued Use of Phrase

COL. J. H. TILLINGHAST, back in the 90's, didn't call himself a psychologist. The term wasn't used then in commerce. He was one, nevertheless, and what he did then can be done today, to the great advantage of those who do it.

It was before the day of automobiles. Morgan & Wright, Chicago, sold nearly 75 per cent of all pneumatic bicycle tires. Morgan originated the slogan, "Morgan & Wright Tires are Good Tires." They were good tires, and the guarantee was very liberal. Every order which came direct, as many did from the more than 30,000 dealers (including farmers' sons who sold to their neighbors) drew from M. & W. a friendly letter, dictated by one of a group of psychologists who sent out about 1,000 such letters every day. A house organ de luxe helped toward an extraordinary friendship between Morgan & Wright and their customers.

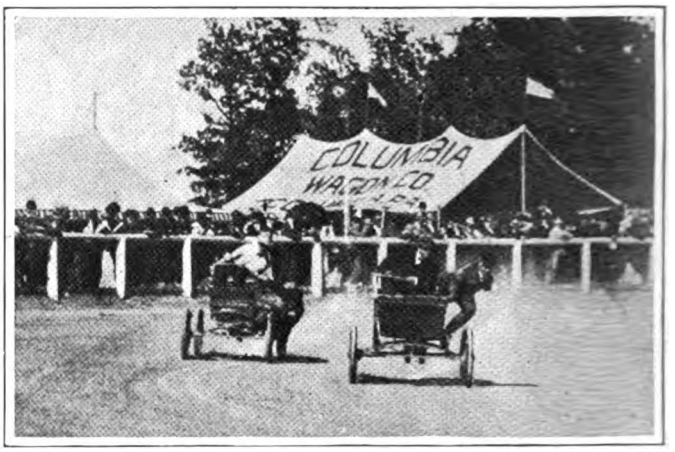
The Palmer single tube, non-deflatable tire, the forerunner of the present cord tires, made a hit, and some other single tubers, among them one made by Tillinghast, who controlled patented ideas used by others, had more or less success. The great majority, however, were M. & W. They were double tube, the casing having a laced slit on the rim side through which the inner tube was pulled to be patched.

The Hartford single tuber, repaired, like the other single tubers, by plugging, began to be a noticeable competitor. Morgan & Wright adopted the quick-repair inner tube, an air tube containing a strip of thin rubber which was picked up by liquid rubber injected through the puncture. Mr. Morgan had three executive employes, who like hundreds of others rode bicycles to and from the office, give a three months' trial to Hartford single-tube tires. These were found better-riding and easier to repair then M. & W.'s. Morgan was urged to make single tube tires. He didn't. If he had—but he didn't, and Tillinghast did something which, despite the strong friendship of the majority of dealers for Morgan & Wright, in due time forced bicycle makers to make single tube tires their standard. Wright is dead. Morgan is rich in money, books, travel, a gentleman farmer. Regrets are not in order; but this is how Tillinghast did what he did:

He got a number of single tube tire makers, nearly all of whom used full-page advertisements, to adopt a border for their ads which consisted of the words "Single Tube Tires"—just those words, repeated so as to surround each single tube ad, in every issue of the journals.

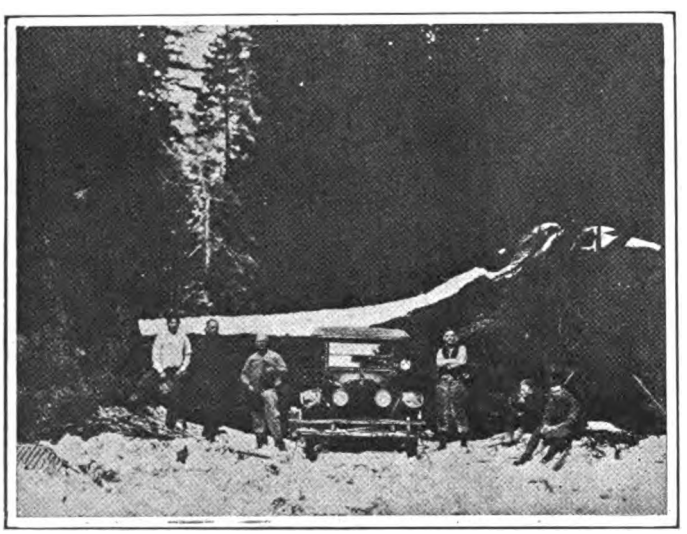
It aroused curiosity. Riders began to buy single tubers "just to see how rotten they were." Some were not rotten. Some, notably the Hartford, became very successful.

The Tillinghast application of psychology, by mere repetition of a short, quick argument, even though implied rather than direct, worked. It worked big. You can make it work in your business, if you have the goods.



THIS IS THE WAY THEY DID IT BACK IN 1903.

The illustration shows Percy Owen (in the right-hand car), now president of the Liberty Motor Car Co., then branch manager for Winton in New York City, rounding a curve during one of his races on Long Island. The figure at the left represents the combined mechanician and counterweight of the day. Owen was at that time an internationally known race driver, holding world records in 1901 and 1902 for all distances from one to ten miles. That his experience was profitable is shown by his later rapid rise to the presidency of his own company, and the success of his car, the Liberty Six, in which the ideas gained through his early years in the business are embodied.



VICTORY MITCHELL PARTY FIRST TO REACH CALAVERAS GROVE THIS YEAR.

Early every year there is rivalry among motorists, in Stockton, Cal., particularly, to be first to reach Fallen Sentinel, giant redwood tree, in the famous Calaveras Grove in the High Sierras. The victor this year was J. C. ("Cal") Skinner, Mitchell dealer in Stockton, with a Victory Mitchell. It was a 36-hour fight, full of bucking and snow plowing, in which previous hard experience served Skinner well. The party started at midnight and at 4 a. m. reached the worst stretch, a ¾-mile snow-covered grade leading to the grove. Breakfast was eaten and the rear wheels fitted with "snow shoes"—large wooden drums, carrying cables. These were fastened to a tree ahead and, as the wheels revolved, were wound up on the drums. Three hours of racking, grilling work, putting every part of the mechanism under very excessive strain, was required to cover the ¾ mile. No weak spots were developed. From left to right the men in the picture are Luther E. Shelton, keeper of the grove; J. C. Skinner, Elliott E. Morse, George Chapman, Earl Mosher, Fred Williams.

Cited by Federal Trade Commission

It will be of interest to all who desire national highway legislation to be free, if possible, from anything likely to hamper open competition, to note that a recent report of the Federal Trade Commission, of formal complaints issued, included sixteen against the many manufacturers of road materials, machinery, etc., in the Middle West and East, on commercial bribery charges. A New York commercial journal said the charges covered attempts to bribe, in one way or another, employes of the Bureau of Public Roads, which is administering the present Federal aid law. Except for forest roads, these men have no extensive purchasing power, yet it appears that a number of manufacturers of road-building machinery and materials have considered it worth while to try to bribe them.

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FYRAC

SPARK PLUGS

IT is a commonplace, but true as common sense, that no chain is stronger than its weakest link. So is no car stronger than its spark plugs; so is no plug stronger than its insulator.

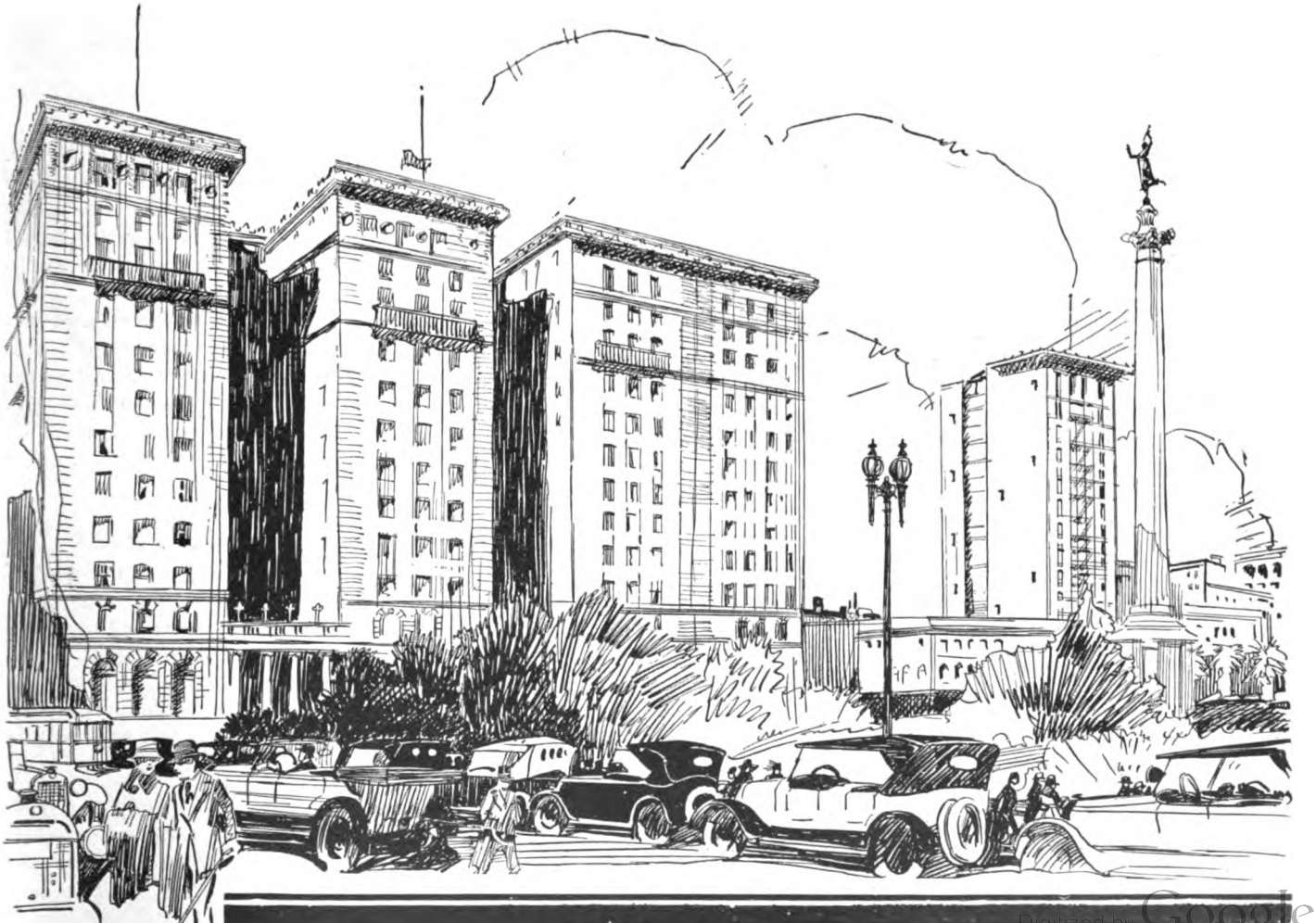
Porcelain insulators, furnace-tested at terrific heat, make Fyracs strong links in your chain-of-car-comfort. Also rigorously tested is the heavy wire composing the *one inch firing surface*, that lasts long and flashes long, igniting instantly and surely.

Well knowing that no car is stronger than the faultiest fragment of its faultiest plug, motorists in largening number are demanding the plug of fire and action, of all-round durability and *one inch firing surface*—FYRAC.

Durable

FYRAC MANUFACTURING CO., *Rockford, Ill.*

Export Department, Werner & Butts, 336 Whitehall Bldg., New York, U. S. A.
Canadian Dept., Campbell Agencies, 350 McKinnon Bldg., Toronto, Canada



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Against the Metric System

International Motors Vice President Says That Adoption Means Dual Method and Billions of Dollars Loss

SENATOR SHAFROTH, of Colorado, introduced a bill for the compulsory adoption of the metric system of weights and measures. Vice-President A. A. Fulton, of the International Motor Co., says that if it is enacted into law, industry in this country will suffer losses of billions of dollars and will be thrown into a state of chaos that would result in practical paralysis.

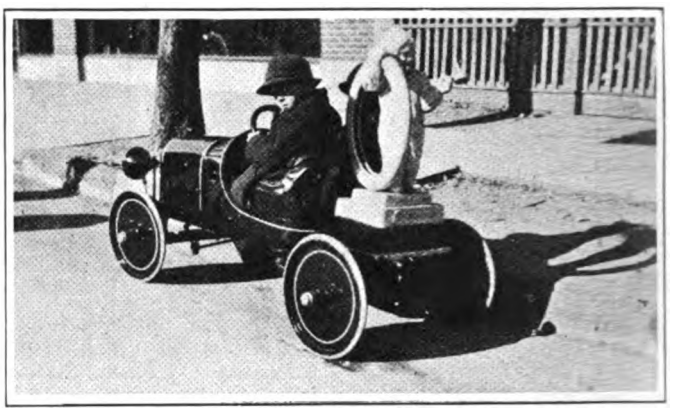
The propaganda which has been directed by proponents of the metric system, he says, while insidious and fallacious, has been widespread and successful insofar as it has induced various chambers of commerce and semi-trade bodies to pass resolutions favoring the adoption of the system, and to forward them to Congress. These organizations do not, however, represent the manufacturer, who is the one actively concerned in the issue. In fact, it is doubtful whether manufacturers as a whole fully realize that this matter has reached a menacing status.

Transition from our present standards to those of the metric system, Mr. Fulton writes, would mean the introduction of a dual standard, as in other countries where the change has been made. He believes results would be exactly the opposite of those claimed by its advocates—complexity instead of simplicity, confusion instead of order, and diversity instead of uniformity. Not only would there be confusion and loss through the necessity of converting from one standard to the other in commercial transactions, but it would require complete new equipment in many forms of measuring equipment, tools, gauges, and innumerable articles of manufacture, not to speak of changes in designs, plans, etc.

Advocates of the metric system argue on the advantages of a uniform world system, but this disappears, Mr. Fulton points out, in the face of the fact that its adoption has in no country brought about a uniform system in domestic affairs, while in most countries it has been a grotesque failure. The most favorable result has been nothing more than a partial change, the old system continuing in use along the new, and leading to nothing but hopeless complexity, confusion and disorder.

If the metric system had possessed any merit, says Mr. Fulton, it would have been put into use in this country long ago, not by force of law but by that of expedience. The very fact that the people of the United States have declined to avail themselves of its principles and to abandon the system to which they are accustomed, should justify, he asserted, the denial of the passage of a law to enforce its adoption. Mr. Fulton concludes:

"Whatever the nature and purpose of this metric propaganda that is so effectively making its impression in this country, it behooves every American citizen to realize the influence such an enactment would have upon American life and industry, and to act accordingly lest we learn its results when it is too late, as has been the case with other forms of insidious propaganda."



"THE SMALLEST AUTOMOBILE ON EARTH."

A man in San Antonio, Tex., Fritz Reuter, running a large automobile machine shop, took odds and ends from Fords to Pierce-Arrows and built the little machine here pictured. It is run by electric motor and battery. Its building occupied a year and a half, during spare moments. The figure on the back of the car is a statuette of the famous "Time to Re Tire" boy of the Fisk Rubber Co.

$1,000,000 Imitation of Champion Product

One million dollars is believed a conservative estimate of the amount of fraud in imitating the product of the Champion Spark Plug Co., of Toledo, discovered after the company had spent $50,000 in tracing spurious spark plugs. Cheap, underpriced plugs, so like the real Champion that deception was easy, were sold even to Champion customers. An important arrest, made in Chicago, is said to have implicated several wealthy men.

In June, at San Juan, Porto Rico, an exposition will be held, chiefly to show the people what is made on the mainland in the way of automobiles, motor trucks, tractors and agricultural machinery. The Porto Rico Development Co. is the sponsor.

BLOW-OUT! fine!

Chance to use my "PORCUPINE"

This dandy blow-out boot gets its name, "Porcupine," from its numerous quills which embed themselves into the fabric of the blown-out tire. Insert the boot, blow up your tire to full capacity and the boot becomes at once a permanent repair.

It's the most practical emergency tire repair device ever put on the market. No muss, no fussing, no delay or annoyance. A real friend in need.

"Just ask your dealer for the Porcupine Boot"

Auto Boot Mfg. Co. of California

Los Angeles, Cal.

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The Car That Appeals To Two Classes

THE SAME CHARACTERISTICS which have always given the COMET SIX a double market are emphasized more than ever. And so the Comet dealers can expect continued dividends from this unique selling advantage.

The man who can afford only a medium priced car is attracted by the COMET because it offers more than the average medium priced car. It is a better car for the price.

The man of means, who seeks in addition to his high-priced cars, a machine which he can be proud to drive himself, requires exactly what the COMET offers.

The COMET cars stand the test which this man who knows motor values will make of it. The specifications offer convincing proof of the mechanical superiority of this car.

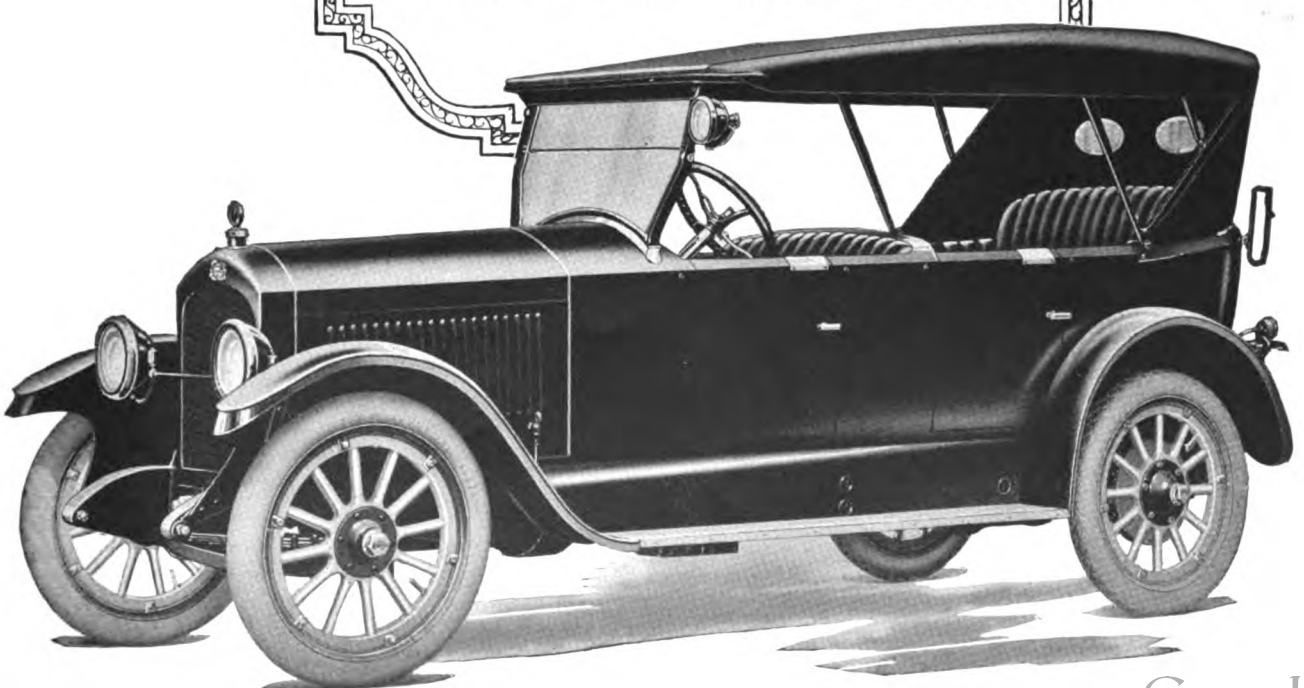
In appearance the COMET excels any of its predecessors —and, we honestly believe, any car on the market. Other car designs can approach the lines of the COMET, but they will miss the effect of its natural beauty in striving to outdo it.

If you are interested in this double-class appeal and would like to know more about the car that possesses it—let us send you the new COMET literature.

From the Continental 9-N Red Seal motor you can develop 55 H. P. at 2000 R. P. M. Wagner ignition (starting and lighting) insures easy starting in the coldest weather. The Stromgburg carburetor gives right mixture of gas, and the combination force-feed and splash lubrication gives efficient oiling. Hyatt bearings make the Comet smooth running. Springs: front, semi-elliptic 2 x 36; rear, cantilever self-oiling, 2½ x 50. Clutch, Borg & Beck.

Comet Automobile Company

821 Garfield Avenue, DECATUR, ILLINOIS.



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Detroit Congestion Relief Idea

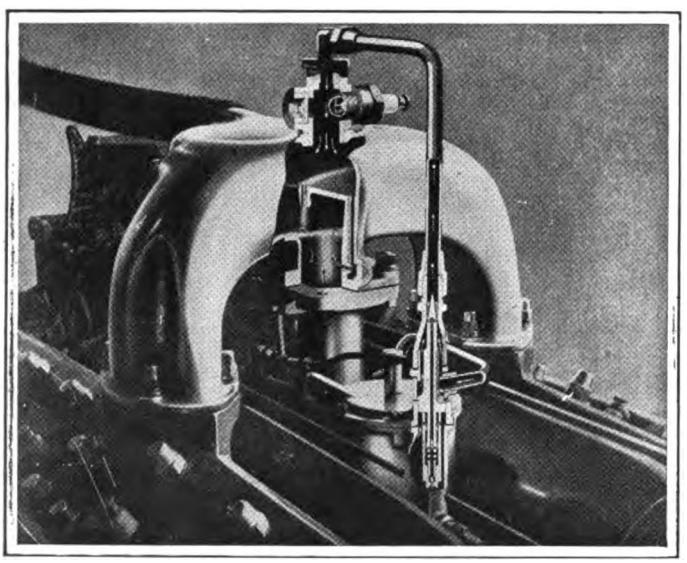
Recently Detroit's city council unanimuosly approved Mayor Couzens' $15,000,000 municipal-ownership street railway plan, including Henry Ford's gasoline street car. The ordinance needs a 60 per cent majority vote in the coming election to be effective.

The new car, which seems destined to eliminate costly power lines, transformer stations and overhead wires, is only 37 feet long and much lighter than the present street car. It develops its own power, heat and lighting. It will greatly relieve street congestion. The interurban type is geared to 70 miles per hour. The construction is of alloy steel and aluminum.

Exports for 1919 Show Great Gains

In 1919, our exports of automobiles showed 88½ per cent, and motor trucks 50 per cent, increase over 1918. The exchange situation affected shipments unfavorably, but slightly, late in the year. The heaviest shipments of course were to non-car-producing countries. The shipments and values in the two years were:

	Passenger Cars.		Motor Trucks.	
	Number	Valuation	Number	Valuation
1918	36,936	$36,278,292	10,308	$26,814,952
1919	67,106	73,642,035	15,467	35,099,079



GIVES FUEL MAXIMUM HEAT AS ENGINE STARTS, THEN DECREASES IT.

Under average running conditions, kerosene splutters about in the cylinders; removes the protecting oil film from the walls; partially collects and burns, producing carbon; the remainder passing the pistons and diluting the crankcase oil. The Packard experimental laboratories have therefore produced the Fuelizer, to adapt Packard engines to fuels obtainable today—and tomorrow. Col. J. C. Vincent, vice president, in charge of engineering, says it assures a clean engine and eliminates cold weather starting trouble. Tests show that a motor equipped with it is ready for high-gear work on a summer setting of the carburetor within 20 seconds after cranking, regardless of the temperature. The device has not the fault of the common exhaust-heated intake, which provides the engine no heat when starting, slight heat when engine is idling, maximum of heat when the engine needs it least. L. M. Woolson, the engineer who developed the Fuelizer, aimed at a complete reversal of this idea. The Fuelizer, perfected to become standard on Packards, gives maximum heat to the charge when the engine is starting or idling, and drops out of operation when the engine can supply its own heat. During the months of tests, combustion was complete, with not one instance of engine fouling. The Fuelizer consists of a small supplementary carburetor and a burning chamber, the chamber being in the intake manifold. Gas enters it from the little carburetor, is ignited by a regular spark plug, and passes into the fresh charge going from the carburetor to the cylinders. The heat of the burnt gas changes the wet, poorly carbureted mixture to a dry vapor, which explodes with full efficiency when sparked in the cylinder. The Fuelizer action is automatic, without a single moving part. It operates fully when the engine is starting, and lessens operation as the throttle is opened. This regulation is by an air valve similar to the one on the main carburetor. Through a small Pyrex glass window the Fuelizer's operation is visible. A perfect mixture produces a purple flame, a fairly rich mixture a bluish green flame, and an exceedingly rich mixture produces yellow streaks in the flame.

San Francisco a Motorized City

Within five years there will not be a horse-drawn vehicle on the streets of San Francisco. The prediction is made by A. V. Seymour, Master truck dealer for California and Nevada, after an examination of the city's records for the last four years. Horse-drawn vehicle licenses are decreasing rapidly each year, motor trucks are multiplying swiftly.

The figures spelling "finis" to the horse as a pedestrian were made public by Tax Collector Edward F. Barber. Many inquiries were made by automobile men regarding the actual number of horse-drawn vehicles in operation and their relation to the number of motor trucks now in use.

Barber announces: "Since the fiscal year 1915-16, the number of commercial vehicles drawn by horsepower, including hacks, delivery wagons and trucks, has decreased by more than 60 per cent. In the same time automobiles licensed for commercial purposes, including taxicabs, have increased nearly 300 per cent."

The following figures illustrate the wane of the horse-drawn commercial vehicle licensed to operate on San Francisco streets in the last four years:

1915	9,175
1916-17	7,558
1917-18	5,583
1918-19	4,216

The figures show that the horse and wagon is less than one-half as numerous now as five years ago.

On the other hand, city-licensed automobile trucks, delivery cars and taxicabs in San Francisco have increased as follows:

1915-16	2,715
1916-17	4,177
1917-18	5,715
1918-19	6,616

In 1916 there were still 18 hacks, 20 coaches and 5 one-horse cabs, paying city licenses. In 1917 there were only 2 hacks and 2 cab licenses. Now there are no horse-drawn passenger vehicles operating in San Francisco.

At present there are 1,973 one-horse vehicles used in the city, less than 450 two-horse trucks and 108 four-horse heavy-hauling wagons.

N. A. C. C. Asks for Lower Import Tariff

The National Automobile Chamber of Commerce has sent the Tariff Commission at Washington a memorandum giving reasons for its request that import duties on motor vehicles costing $2,000 or more be cut from 45 down to 30 per cent, as is now imposed on cars of lower value. One reason was, need of easing the disturbed rate of exchange; another, desire to lessen foreign prejudice, partly due to the high tariff; another, to prevent retaliation.

Importation of foreign cars, it is believed, will not lessen American leadership in all types, as to quality. This country produces more than 85 per cent of the world's motor vehicles.

Freight Car Shipments Exceed Record

J. S. Marvin, manager of the traffic department of the National Automobile Chamber of Commerce, reports that despite freight car shortage, 24,000 carloads of motor vehicles were thus shipped in February, exceeding any previous February record. In addition, more than 22,000 machines were driven overland.

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Surplus Trucks Decreasing

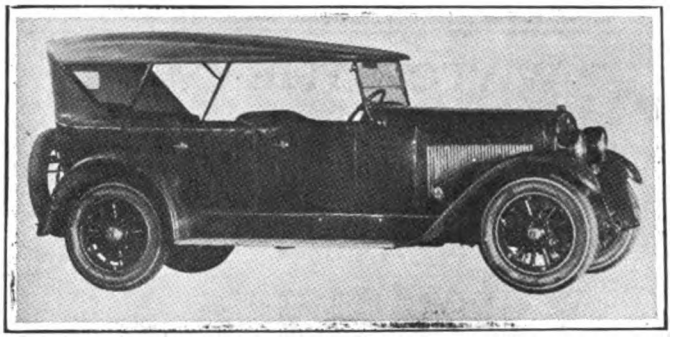
Much of Unused War Equipment Is Already Distributed for Roadbuilding Uses In the Various States

News from Washington is that there are in storage and available for use 15,939 motor vehicles belonging to the War Department, compared with more than 40,000 when the war ended. The total includes motor trucks, passenger cars, ambulances and motorcycles.

To date the War Department has turned over to the Department of Agriculture approximately 24,000 motor vehicles, as provided in congressional legislation empowering the latter department to distribute this war material among the state highway commissioners for use in road building, allotments of the vehicles to be based on the amount of Federal aid for roads which the states receive. This is practically all the vehicles which the War Department has to release.

Of this total 12,000 have been delivered to the states. The remainder will be distributed as fast as railway cars can be secured for their transportation. Representatives of the Bureau of Public Roads, in charge of the matter, believe that within two or three months all of the vehicles will have been delivered to the states. This equipment promises to be a great aid in carrying out the large road building program for 1920.

The state highway commissioners are also interested in securing allotments of tractors, steam shovels, locomotive cranes, automotive cranes, industrial railway track, dump cars, and industrial locomotives which remain to be disposed of by the War Department. A measure known as the Kahn bill, directing the Secretary of War to release this material for the state highway commissioners, has passed the senate and has been reported out of committee in the House. Until the Secretary of War has been directed by Congress to turn over this equipment it is not likely that it will be available for state distribution.



LAFAYETTE TOURING CAR IS FOUND VERY FAST.

Low center of gravity and low overall height are said to be largely responsible for the beautiful road appearance of McCall White's new creation, the Lafayette. It has been undergoing severe tests on roads around Indianapolis and some who have ridden in it believe it is good for 80 miles per hour, at least. Indications are cars will be available in June.

What is a Cord Tire?

Many "Motor West" readers will be interested in the statement of Sales Manager Mason, of the Mohawk Rubber Co., that while most car owners know in a general way what a cord tire is, he believes it would trouble the average man to tell exactly the difference between a cord tire and a regular fabric tire. And he goes on to say that the cord tire of today is a direct descendent of the old thread fabric tire well known to the drivers of electric cars ten or twelve years ago. The principle on which the old thread fabric tire and the cord tire of today are constructed is this:

The carcass or inner fabric frame work of the tire is made of layers of parallel cotton cords which are not woven or interlaced with one another. The common fabric is constructed of regular cotton fabric where the threads running one way are woven or interlaced with the threads which run at a right angle to them. Rubber is squeezed into the fabric in both types, covering the cords with a rubber coating. When the tire is in action, it is constantly being flexed or squeezed out of shape. This is what the tire is for. For by being distorted, it absorbs the shocks of the road instead of communicating them up to the car and the passengers. This flexing or squeezing motion naturally causes a motion in the cords composing the fabric.

The larger the tire the greater the distortion and the greater the movement of the cords. In the fabric tire, where the cords are interlaced, the strains are greater than in the cord tire. The cords are quite liable to begin to saw back and forth across each other, wearing themselves out and causing friction and heat to develop. In the cord type of tire each cord is separate and does not touch any other cord. Consequently, there are no unnecessary strains and no sawing action.

The Motor Truck Owners of North America is a new organization, with Indianapolis as headquarters. It is the outgrowth of the national shows. The secretaryship was offered to Thomas Snyder, secretary of the Indianapolis Chamber of Commerce.

FIRST ANNUAL

Motor Truck Show and All Accessories

PRAEGER PARK

Washington St. and Grand Avenue

March 27th to April 3rd

Motor Truck Exhibitors Association

1719 So. Los Angeles St. Telephone 20774

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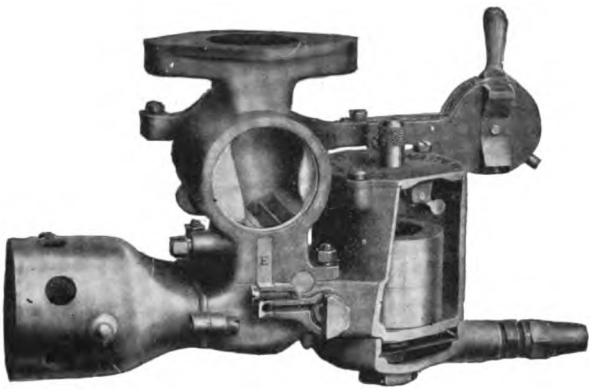
WATCH THE CAR

That Carries A

Master Carburetor



ON YOUR CAR—30 DAYS

Costs You Nothing

We Guarantee
- 25% MORE POWER
- 25% MORE SPEED
- 25% MORE MILEAGE
- 25% MORE SATISFACTION

See Your Local Dealer Today for Installation

PACIFIC STATES DISTRIBUTORS:

Cal Messner Co. ..... Phoenix, Ariz.
Karns Bros. ..... Nogales, Ariz.
Sunset Electric Co. ..... Portland, Oregon
Independent Tire Co. ..... Baker, Oregon
Master Electric Co. ..... Seattle, Wash.
Dirks Motor Supply Co. ..... Spokane, Wash.
Conklin Brothers ..... Las Vegas, Nev.
Nevada Auto Supply Co. ..... Reno, Nev.
Karl Winter ..... Salt Lake City, Utah
Western Ignition & Battery Co. ..... Boise, Idaho
Master Carburetor Sales Co. ..... San Francisco, Cal.

CALIFORNIA DEALERS:

W. A. Christensen Garage ..... Antioch, Cal.
F. W. Beneker ..... Bakersfield, Cal.
Service Garage ..... Biggs, Cal.
Benecia Garage ..... Benecia, Cal.
Ceres Garage ..... Ceres, Cal.
Eldorado Garage ..... Colma, Cal.
C. E. Coggins ..... El Centro, Cal.
H. M. Harper ..... Eureka, Cal.
D. A. Payne ..... Fresno, Cal.
E. V. Adge ..... Fort Bragg, Cal.
Clipp Bros. ..... Grimes, Cal.
Davies Garage ..... Jackson, Cal.
Wiley Motor Stores Co. ..... Long Beach, Cal.
Cate & Wollomes Garage ..... Lindsay, Cal.
Offill & Blackman ..... Loma Linda, Cal.
Lodi Ignition Co. ..... Lodi, Cal.
Merced Vulcanizing Works ..... Merced, Cal.
Mission Garage ..... Monterey, Cal.
Autozone Garage ..... Martinez, Cal.
Enterprise Garage ..... Madero, Cal.
Patchett & Carstenson ..... Newman, Cal.
L. M. Walters ..... Oakdale, Cal.
Motorcar Electric Co. ..... Oakland, Cal.
Perris Garage ..... Perris, Cal.
Opera Garage ..... Pomona, Cal.
Red Front Garage ..... Plymouth, Cal.
Guglielmetti Bros. ..... Petaluma, Cal.
Central Garage ..... Redondo, Cal.
Co-Operative Co. ..... Santa Ana, Cal.
Weber & Roseback ..... San Bernardino, Cal.
Freeze & Freeze ..... Santa Barbara, Cal.
Jas. S. Remick ..... Sacramento, Cal.
Young & Chamberlain ..... San Diego, Cal.
Crescent Garage ..... Santa Maria, Cal.
Paul's Auto Eng. Co. ..... Stockton, Cal.
Santa Clara Garage ..... Santa Clara, Cal.
Gowan Bros. ..... Ukiah, Cal.
Century Garage ..... Watsonville, Cal.

MASTER CARBURETOR CO.

(OUR NEW LOCATION)

South Main Street at 30th Los Angeles, Cal.

——Phone South 841——

California Highway Commission Activities

In response to the request of the Bureau of Public Roads of the Department of Agriculture, which supervises construction of all Federal aid projects including those arranged for by the Forest Service, the California Highway Commission sent its chief geologist, F. T. Maddock, to a meeting of highway testing engineers held in Washington, to adopt a plan for uniform tests of materials entering into Federal aid road work.

An important link in the state highway system is Ramsay Street in Banning, San Bernardino County. That city wants the state to take over and pave it. The commission is investigating.

A company wanted to use four trailer wagons, pulled by a 45 horsepower caterpillar, on the highway to haul material to a portion of highway to be built. The answer was no. What the verbal comments were is not of record.

The commission issued a permit to a man who wanted to trim 20 trees on his property on the highway near Hollister. Then it was found this would mar the trees and retard their growth many years. Permit revoked.

An oil company was permitted to stack well material on the state highway right of way. It left car stakes on the pavement edge and shoulders, endangering traffic; and it loaded pipe with its trucks standing part way across the pavement. Permit revoked.

Owner's Initial on Top Window Identifies Car

An automobile owner of Los Angeles has just devised the novel idea of placing a large initial, the first letter in his surname, upon the window in the rear of the top of his car. The initial purpose was to create something that would serve as a novelty, but it has been found that this unique feature is a very efficient mark of identification. For instance, when this owner wishes to direct anyone to his machine, he does not now have to go into a lengthy description of the car, but simply says, "It is the machine with a large letter 'M' in the rear window."

This initial is made of tape of a strong, black character. One would naturally think upon glancing at this window, that it consisted of a number of pieces of isinglass that are being held together by these various strips of tape. But this is not the case. This tape is simply laid upon either side of this large sheet of glass and the threads which hold it in place are passed entirely through the transparent material as well as both pieces of tape. As a whole the window is strengthened by an initial of this character.

OWNER OF THIS CAR CAN IDENTIFY IT IN A CROWD.

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Stewart MOTOR TRUCKS

Here's the proof:

Fleets that grew from one

It isn't the size of a truck fleet that tells the real story. A big industry that decides to motorize may buy 20 to 50 trucks at once—may make a mistake of judgment that will never be discovered. But the business man who buys one truck, finds it pays big, has to buy another and still others to keep up with expansion—his experience is a valuable guide.

Stewart dealers can tell you of numerous cases, right in your own vicinity, where the first Stewart expanded gradually into a large fleet, and every truck that was added was another Stewart.

Each Stewart fleet tells a complete story of the service, efficiency and economy of Stewart trucks—a story that has gone round the world—for Stewarts are giving every-day satisfaction in 600 American cities, on hundreds of farms and in 38 foreign countries. And only through this satisfaction of owners could the Stewart Corporation have become one of the world's leaders in truck building in only 7 years.

Read what these fleet owners say:

HENRY J. BALL

Milwaukee, Wis.

We are using at the present time twenty-six Stewart trucks from one ton to three-and-one-half ton capacity. This explains how we like them. We are more than satisfied and we expect to buy more in the near future. When we began buying trucks we had several different makes, but are so well satisfied with the Stewart trucks that we are now standardizing on them.

(Signed) HENRY J. BALL.

ROTHENBERG & CO.

W. 14th St., New York City.

We have thirteen Stewart trucks and operate them an average of 40 to 50 miles every day. Three of these trucks in a year's time have not cost us more than $100 for repairs. Upon this splendid performance, we decided to buy ten more Stewarts, and find we have made no mistake. The trucks give us perfect satisfaction, and with the service you render us nothing more can be asked.

(Signed) LEO A. PRICE, Pres.

(Have bought more since writing above.)

Model 11—¾-Ton Capacity Chassis—$1350
Electric starter, electric lights, magneto ignition

Model 12—2000-lb. Capacity—Chassis $1655 with electric starter, electric lights, magneto ignition and five-inch pneumatic cord tires.

Model 9—1½-Ton Capacity—Chassis—$2250

Model 7—2-Ton Capacity—Chassis $2875

Model 10—3½-Ton Capacity—Chassis $3895

All prices f. o. b. Buffalo

H. A. SELLER CO., 1535 Van Ness Ave., San Francisco, California.

Distributors for San Francisco and Northern California.

Stewart Motor Corporation, Buffalo

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The Car of Commerce

Fifty Thousand on Farms

Department of Agriculture Gathers Data on the Use of Motor Trucks In All States of the Union

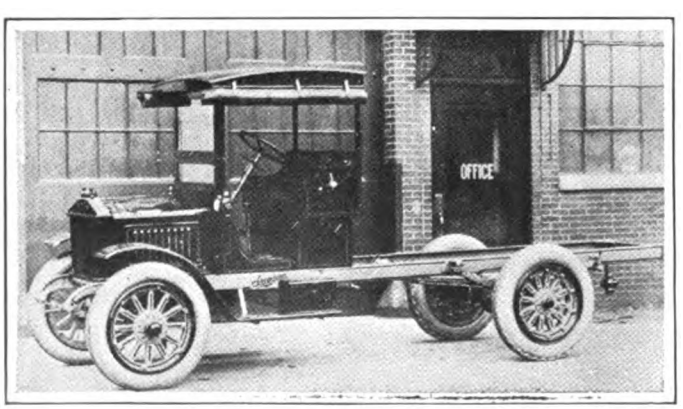
At least 50,000 farmers in the United States own motor trucks which they use on their farms. This is shown by a preliminary survey of the ownership and use of motor trucks by farmers undertaken by the Office of Farm Management and the Bureau of Crop Estimates of the United States Department of Agriculture. The data secured by this inquiry answer many questions which have been asked repeatedly in recent years regarding the extent to which motor vehicles are used for farm hauling.

The figures on which totals for the nation and the several states are based were secured from approximately 35,000 selected crop reporters of the Bureau of Crop Estimates. These cooperators were asked to report the names and addresses of farmers they knew who own motor trucks for farm use. Pleasure cars and trailers for use with pleasure cars were excluded, and the reporters were asked not to take account of trucks which are used primarily for general custom hauling, or on regularly established routes.

This survey can scarcely be considered a complete census for it is probable that in some localities the crop reporters were not acquainted with all the truck owners, but it is certain that a very large per cent have been listed. It is believed that in no State were less than 75 per cent of the trucks reported.

Duplex Truck Co. Adds New Dealers

The Duplex Truck Co., Lansing, Mich., has completed arrangements whereby the Lawrence Motor Sales Corp., New York, will handle the complete Duplex line of motor trucks in New York and a considerable surrounding territory. Another addition to the list of Duplex dealers is Lampee & Hitchcock, Inc., 38 Brookline Ave., Boston.



NEW PNEUMATIC TIRED "STANDARD" MODEL INTRODUCED AT CHICAGO SHOW.

The pneumatic tired model 56 chassis, 1½ ton capacity, was introduced by the Standard Motor Truck Co., Milwaukee, at the Chicago show, where its approval by distributors and dealers was emphasized by quantity shipments ordered during the remainder of the year. Like the whole line, it has the same standardized units which the Standard line has used during the past ten years. It supplies a demand for air-tired trucks from the farms and oil fields in the West, and its powerful Continental engine meets interurban haulage requirements.

Pays to Watch Truck Costs

Valuable Tabulation of One Successful Operator Is Presented for Information of Don't-Know-Hows

DAY-ELDER motor truck experts have been gathering valuable data which they believe should be carefully considered by too many operators who have been gathering wool, in the matter of cost of operation. In offering this constructive criticism, they state that the one outstanding evil of the trucking business today is price-cutting. Ninety per cent of it is not done in a cut-throat business spirit, but is done because of a conscientious belief that the low price includes a legitimate profit. That is why most of the so-called price cutters go out of business in a few years. They have forgotten to include sufficient in their profits to allow for depreciation and other necessary expenses for running along in business for a long period of time.

The following figures taken from the books of a successful truck operator are given as a fair estimate of the average cost of running a truck year in and year out:

Average cost per year of running a two and one-half to three-ton truck:

State license	$ 28.00
City license	6.00
Insurance—Cheapest fire, theft, collision, property damage, public liability	121.75
City and county tax	35.00
Garage, $5 per month	60.00
Interest on $4,000	280.00
Depreciation, 20 per cent	800.00
Advertising, $10 per month	120.00
Office rent	800.00
Driver—240 days at $5; 73 days at $2.50	1,382.50
Compensation insurance	53.20
Lubricating oil	28.00
Transmission oil	10.00
Hard grease	3.00
Gas, 8 miles per gallon	240.00
Tires, 3 cents per mile	288.00
Repairs, 2½ cents per mile	240.00
Prestolite tank at $2.25	9.00
Total cost	$3,860.45

Average cost per mile, 40 1/5 cents.

Selden Issues Monthly Publication

"Truck Transportation," edited by J. E. Pickens, is to be issued monthly by the Selden Truck Corp., Rochester, N. Y. The January number states the intention to be constantly informative on the motor truck as an economic factor, and invites all and sundry to participate in the circulation, to the number of "at least a million." Valuable articles by Vice-President R. H. Salmons, J. R. Coleman, in charge of engineering and production; and Sales Director H. T. Boulden, feature the first issue.

Kruspe Is Standard Sales Promotion Head

Edward W. Kruspe, formerly Western sales manager of the Standard Motor Truck Co., Detroit, Mich., has been permanently recalled from the field and placed in charge of the factory sales promotion department.

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DUPLEX TRUCKS

BUILT FOR BUSINESS

The Famous Duplex 4-Wheel Drive is Winning New Users Every Day

If you have a heavy hauling problem and do not already know the Duplex 4-Wheel-Drive, talk to the Duplex dealer and let him give you the facts at first hand.

The Duplex Truck Company is the Originator of the 4-Wheel Drive principle and today its most successful exponent.

There is pull and power in every wheel—and the Duplex 4-Wheel drive keeps going under conditions that are simply impossible for any rear wheel drive trucks.

The Duplex 4-Wheel drive is setting new records of truck efficiency for Lumber and Logging Company; Road Builders; Oil Companies; Coal Companies; Mining Companies; Grocery Companies; Trucking Contractors—in fact in all lines where there are heavy loads to be hauled.

The point is the Duplex 4-Wheel Drive is daily proving to be a very **economical truck** for hundreds of owners who used to say it was too big for their needs.

Write us for folders. Talk to the Duplex dealer near you. He will give you only facts.

Why the Duplex Limited is Winning Enthusiastic Approval All Over America

Here is a Medium Capacity, High Speed Truck That Fits in Exactly with Present Day Business Needs

WITHOUT question the remarkable success of the Duplex Limited is due to the confidence that truck users all over America have in the Duplex Truck Company as builders of trucks that a business man can consider an investment in practical trucking efficiency.

Past experiences and present day conditions are leading men to look at different makes of trucks in the light of the real facts.

The result is that some truck companies are forging ahead, while others are not—and in each case the **buying public** is making the decision.

One of the most significant developments in the whole motor truck industry is the remarkable growth of the Duplex Truck Company all during the last ten years. It was during these same years, mind you, that several hundred different truck companies discontinued business.

What does the steady, persistent growth of the Duplex Truck Company signify as regards this Duplex Limited?

For one thing it means that the Limited is designed and built by a company that is **known to be successful**—a company that is famous for building good trucks.

The addition of the Limited makes the Duplex line today one of the most valuable dealer franchises in the Country. It opens up a wonderfully large market—makes it possible for the Duplex dealer to meet the needs of 75 per cent of the truck users of America.

Get after all the possible prospects for the Duplex Limited in your community—let them know that **now you are in a position to sell them a Duplex for general business hauling.**

There is a specially rich market that you can cash in on now.

Get after the business—and start today.

DUPLEX BUILT FOR BUSINESS

Duplex Truck Company

Lansing · Michigan

One of the Oldest and Most Successful Truck Companies in America

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Truck Sales School Urged

Commerce Company Thinker Points Out the Many Ways In Which Sellers Should Prepare for the Future

ARE motor trucks selling themselves to the ultimate consumer in spite of the present merchandising methods as employed by the average retail truck salesman, asks G. D. Wilcox, director of sales and advertising, Commerce Motor Car Co., Detroit.

Can credit for the tremendous volume of sales be given to truck salesmen, or must it be chalked up to the operation of the law of supply and demand?

These two questions should be uppermost in the minds of sales executives of vision. Whether the automobile truck industry will make the most of a situation and wiggle through, letting the future take care of the question, or allow a certain few manufacturers to take the question of training retail truck salesmen seriously, remains to be determined.

There is no denying that motor trucks are being more and more recognized as a time and labor-saving adjunct to nearly all vocations; that their sale does not depend as much today on salesmanship as it will later on when competition becomes keener.

There is no denying that now is the opportune time to train truck salesmen in real salesmanship—it would solve many of the alleged evils in the merchandising of trucks.

Plans should be formulated now to meet conditions which will confront the retail of motor trucks when the industry returns to normal conditions. The truck salesman stands on the firing line; he will be responsible for the manufacturer's presentation of his product and for the volume of sales to the consumer.

With few exceptions, no really serious consideration has been given by the manufacturer to the most important detail of taking a first-hand interest in the proper training of the salesmen who make up the staff of truck dealers.

Should the responsibility of training these salesmen be left to the dealer, who through lack of merchandising experience himself because of the necessity of giving personal attention to other data of his business, cannot develop the line of salesmanship education that should be instilled into the salesman?

There is no denying that the salesman's method of approach today is either so stereotyped or so inaccurate that he is unwittingly discrediting the motor truck industry in the eyes of thousands of business men in different vocations. The best proof of this lies in the exceedingly large number of inquiries which come to the manufacturer, prefaced with the statement, "do not send your representative's salesman to see us."

It must be remembered that in a very large number of vocations in which motor trucks can be used the prospective buyer is himself an employer of a large number of salesmen, merchandising a product in which competition has existed for years; he has made a keen study of salesmanship. As a result he has adopted methods of salesmanship to insure his share of trade in his particular line. The motor truck salesman of today, with his indifferent methods of approach and his somewhat lamentable sales arguments, helps to convince this type of merchant that there is something phony in all arguments of real motor truck salesmen.

He has found from bitter experience in the past that the average motor truck salesman is not equipped to analyze transportation problems—that the salesman's sole thought is to sell the truck or trucks which he, the salesman, may be representing at the moment and that his advice as a rule is a misfit. It is not to be compared with the intelligent engineering advice which he would expect and gets from the representatives of any other time or labor-saving device which he may employ in his business.

This condition cannot be corrected by individual manufacturers to the credit of the industry as a whole, there must be some concrete action. The solution probably lies in the establishment of a school of motorized transportation, where truck salesmen could obtain a 30 or 60-day intensive course on how to retail motor trucks.

The course to cover approach, analysis of conditions, proper routing, proper selection of units for vocations and an accurate mechanical knowledge of their own and competing lines. The course would also give the salesman general information of a constructive benefit to the prospective buyers and operators of motor trucks.

Such a course, Mr. Wilcox believes, should naturally be centralized at Detroit. It could be offered to the salesman at a minimum expense. On such a plan the burden of expense might fall on the manufacturer—but it would pay big and immediate dividends to the industry in the immediate increased volume of business its graduates would develop.

It is possible that with every franchise taken on by a distributor a clause could be inserted making it compulsory on the part of the distributor controlling a certain amount of territory to send one or more of his salesmen to this school. The manufacturer might offer as a prize a certain number of scholarships a year for showings made by a distributor. But the detail could be worked out by a committee, who, after a thorough investigation, should arrive at a plan and get the plan in such shape that it would be devoid of everything but its helpfulness to the industry.

There is proof that such a plan would be beneficial and truck manufacturers encounter it daily. Many truck sales managers wonder why they lose certain sales. Generally it is attributed to certain big discounts alleged to have been given, but in the majority of cases it was due to poor salesmanship on the part of their representatives.

Rath Looks for Further Increase in Prices

Further increases in truck prices throughout America is predicted by W. G. Rath, general manager of Napoleon Motors Co., Traverse City, Mich. He says these increases will be due to the old economic law of supply and demand. The demand, in his opinion, will far exceed the production for the coming year. The general unrest and production tie-up caused by the steel, coal and labor situations are certain to have their effect. The year will see many new concerns starting in the truck-manufacturing business, but these will have a hard time getting into production. Established truck companies have practically contracted for all the available supply of material for the coming year. The newcomer will have difficulty in securing material. It is largely now a matter of production rather than sales with the new concerns.

U. S. Motor Truck Capitalization Increased

Stockholders of the United States Motor Truck Co., Cincinnati, O., increased the capital stock from $1,000,000 to $2,500,000 at a meeting held January 14. Present stockholders oversubscribed the entire amount. The present company was taken over by its managers in 1914. It was then capitalized, for $300,000. It was in 1917 that it was found necessary to increase the capital stock to $1,000,000, but with the continuous increase in the business it became necessary to still further increase the capitalization.

Transport Truck in Northwest

The Transport truck, built at Mount Pleasant, Mich., has made its appearance in the Pacific Northwest, for which territory the Seaboard Motors Co., of Seattle, Wash., has become distributor. The firm members are Paul R. Gregg, R. R. Pence and Mark Pence, all formerly of Spokane. They have contracted to handle 80 Transports by August 1.

Robert H. Salmons, vice-president of Selden Truck Corp., Rochester, recently sailed to the West Indies.

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Wilson dependable MOTOR TRUCKS

Why Do Motor Truck Dealers Make Money?

This is a very frank and important talk to automobile dealers, and those intending to enter the business, relative to the vital question of profits to be made and how to make them

THE established truck dealer who has gained wisdom through long experience knows how easy it is to sell a well advertised motor truck.

And he knows the hardships that come with trying to sell an unknown truck.
It is seldom, therefore, that you find the experitnced motor truck merchant contracting for an unadvertised and unknown account.

He does not want to do the pioneering. He does not want to put his time and resources back of an unknown product. When, for example, he tries to sell a customer the "Blank" truck, he does not want to hear the prospective buyer say: "The 'Blank' truck? I never heard of it!"

You old dealers know that this does not spell success. And you younger ones, and you who are thinking of going into the business, can gather a lesson from the older dealer's experience.

For the American buyer today does not absorb voluble promises and doubtful facts as he may have done in days of yore. He has learned something and he is influenced by, and guided to the door of, the truck maker who has sufficient faith in his product to come out boldly in great advertising channels and state his claims openly to the world—in such reputable publications that the very fact that they publish his claims is a substantial guarantee of their dependability.

The appearance of this advertisement marks the thirty-seventh year of the continuous existence of the J. C. Wilson Company as a manufacturer of heavy duty haulage vehicles —first horse-drawn and then motor-driven. For many years of this time we have been telling the public, through the medium of the great national publications, of the worth of Wilson motor truck construction and the dependability of Wilson truck service.

The result is that the public KNOWS Wilson trucks. In addition to their great mechanical worth they are an advertised asset to the dealer, they possess a GOOD-WILL VALUE which makes sales easier for him, and creates a greater re-sale value for the retail buyer.

The name "Wilson" as applied to motor trucks is so deeply imbedded in the public consciousness, so thoroughly intrenched in public favor, that sales (and re-sales) of Wilson trucks are infinitely easier to make than if we depended upon circulars and postal card campaigns to acquaint the public with our product.

There can be no question about this. What are the big selling passenger cars? What are the big selling soaps? What, even, if you please, are the big selling chewing gums? The answer writes itself, and you know it: They are the passenger car, the soaps, the chewing gums—AND THE MOTOR TRUCKS—whose makers come into the open and state their claims in the great journals of the world.

This is only good, sane sense. If you sell an advertised product you are not up against the continued, heart-breaking barrier of obscurity, of "I never heard of your truck."
It may be that some of you old dealers who read this are getting ready to take on the sale of motor trucks, or that some of you men in other lines of business are thinking of taking up the sale of trucks as a vocation. If you are we would like to hear from you. Perhaps your territory is still open.

Write us. There's money in the business, and it's a clean business—a business man's business.
Let us send you (free) a booklet we have prepared called "Money in Motor Trucks." It is interesting and instructive and will open up to you an avenue for clean profit-making that will be to you an industrial revelation.

1½, 2½, 3½ and 5 tons Capacity---All Worm Drive

J. C. WILSON COMPANY
DETROIT, U. S. A.

37th Year

• COMMERCIAL VEHICLE MANUFACTURERS •

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Commerce TRUCKS

You Need Today's Truck For Today's Load—

That's why you need a Commerce truck— for Commerce trucks are built to *modern* standards of truck engineering.

The right proportion between truck weight and weight of load—a motor that is designed to meet the requirements of the added speed that pneumatic tires make possible—improvements that make the truck easy to drive and easy to take care of—these are some of the reasons why Commerce trucks will meet your needs better than any other.

It will pay you to find out more about the Commerce line.

The COMMERCE MOTOR CAR CO.

DETROIT :: MICHIGAN

FREEMAN A. McKENZIE,
CITY GARAGE, INC.,
1205 South Olive St., Los Angeles, Cal.

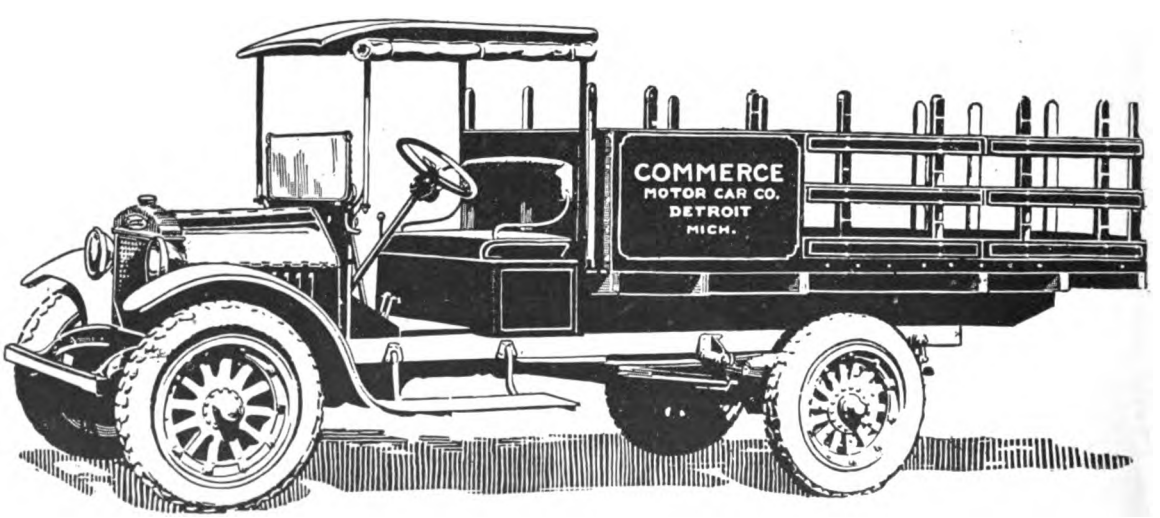
McCRACKEN MOTOR CO.,
Portland, Ore.

COMMERCIAL MOTORS CO.,
Seattle, Wash.

C. P. KIEL,
1830 Van Ness Ave., San Francisco, Cal.

SULLIVAN TAYLOR MOTORS, LTD.,
1260 Granville St., Vancouver, B. C.

W. B. WOOD,
Pacific Coast District Manager,
1205 South Olive St., Los Angeles, Cal.



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General Motors Tru

The Big Message In GMC Truck Success

The clearest and plainest message that can be told to a prospective buyer of GMC Trucks is that GMC Trucks get there and back.

Stripped of fine distinctions in phraseology and mechanical explanations, this is the test of a truck.

Volumes may be written about the machinery of a motor truck, but, after all, what the user wants is to get there and back.

GMC Trucks do just that, which makes long explanations unnecessary.

GMC engineering is just common sense truck building having in view the utmost dependability.

As to GMC quality, that is just plain, honest quality—also common sense.

Back of these things is the stability of the exclusive truck making unit of the General Motors Corporation.

GENERAL MOTORS TRUCK COMPANY

One of the Units of the General Motors Corporation

PONTIAC, MICH., U. S. A.

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Good Drivers, Good Results

Some Highly Useful Information that All Operators of Motor Trucks Should Read and Well Digest

ONE of the reasons why so many motor truck operators fail to appreciate the importance of the driver in the truck transportation system is that most of them approach the subject from the passenger car angle. The average motor truck operator has kept a passenger car long before he thought of converting his business transportation system from horses to trucks. For this reason he carries the passenger car view of the driver into the truck field, where it is totally wrong.

The passenger car is designed to give its owner pleasure and to serve his convenience. It is not bought from motives of economy, though in the end it contributes to just that. On the other hand the truck is a business proposition pure and simple. It does not add to the owner's pleasure nor does it serve his personal convenience. The chauffeur of the passenger car may be most inefficient as far as keeping down expenses goes and yet his style of driving may suit the owner admirably, because pleasure and convenience are the first considerations, not economy. The motor truck, on the other hand, must return a direct dividend in economy or it is not serving the end for which it is installed.

It is for this reason that the wise truck owner will insist on proper education of his drivers. The driver cannot be expected to know for himself what will best serve the interests of the owner; he must be carefully instructed and then care must be taken to see that he carries out the lessons he has received.

The only satisfactory method of imparting this information is to draw up a regular schedule of maintenance instructions daily, weekly and monthly. Also the work required of drivers will vary in different truck fleets. In the smaller fleets the men will be required to do all the ordinary maintenance "chores," only the repairs and more difficult adjustments being sent to the repair shop or service station. In many of the larger fleets the drivers are not permitted to perform any work whatever except the actual driving. Perhaps the average condition is that wherein the driver must perform the ordinary routine of caring for his vehicle.

The most important factor in truck maintenance is lubrication. It has been wisely said that if lubrication was perfect the vehicle would never wear out. Of course we cannot have perfect lubrication, but we can make sure that this vitally important operation is carried out to the best possible advantage under present conditions. The only satisfactory way of insuring maximum lubricating efficiency is to draw up a chart, showing the various operations and the periods at which they must be carried out. The chart will show, for instance, that every day the steering knuckle pins must receive proper lubrication, together with the clutch thrust bearing and the throwout collar.

Another item on the daily maintenance list will be the tires. These should be carefully gone over every night. Cuts should be plugged at once, and in case of the larger injuries they should be vulcanized if the casings are pneumatics and shaved off in the case of solids.

Inspections are a vitally important part of proper truck maintenance. The most satisfactory system appoints a certain day of the week when the drive must give the trucks a thorough inspection, which will include the brake and steering linkage, the ignition system and oil housings, wheel bearings, etc. Such a regular inspection will disclose incipient causes of trouble before they have a chance to develop.

In addition to the weekly inspections it will be found an efficient method to devote one day a month to a more comprehensive overhauling. This will include the lubrication system entire, the various parts of the mechanism, the braking system, the steering system and a general tightening up of bolts and adjustments of parts that seem to need such treatment.

In many fleets it has been found advantageous to devote one day a week to overhauling. That is to say, each truck has one day off the road, during which it is completely gone over by the driver or the mechanical man of the fleet. When systematic inspection and adjustment of this kind rule there is no need for the ordinary yearly or semi-yearly retirement of the truck to the service station for an expensive overhauling. It is simply another example of the working out of the old adage that "a stitch in time saves nine."

By no means the least factor in the education of the truck driver is the little item of encouragement. Give the man an incentive to learn and he will do it willingly. Hold out the promise of more money in return for increased proficiency and you will be surprised how quickly the men will buckle down to the educational work. In this connection a fair and equitable bonus system is a wonderful help. Even a poor driver can be made a better one by reasonable encouragement, by making it worth his while to be a better one.

The value of weekly meetings of the drivers is also suggested. One operator of a big fleet of trucks has made this a feature of his work from the beginning. The men get together one night in the week and discuss the operations of their vehicles. They offer suggestions for bettering the service, and if these prove helpful the suggestor is rewarded. In case where only two or three trucks are operated the owner ought to make a practice of having a weekly talk with his men and of going over with them the work that they have done.

In conclusion, it is obvious the great need is to make the men something more than mechanical units of the system. Show them how to apply their brains to their jobs and then treat them so that they will want to use their education to their own and your advantage.

F-W-D Buys Menominee Plant

The Menominee Motor Truck Co., of Menominee, Mich., has been bought by the Four-Wheel-Drive Motor Truck Co., of Clintonville, Wis. Manufacture of the Menominee truck will continue at the Michigan plant.

The foregoing news was followed by the announcement of the organization, at Clintonville, Wis., February 24, of the Menominee Motor Truck Co. of Wisconsin, with capital stock of $500,000, to take over the Menominee Motor Truck Co., of Menominee, Mich.; headquarters to be in Wisconsin, but the making and selling to be in Michigan until a definite location is chosen. At the meeting the stockholders elected as directors W. A. Olen, D. J. Rohrer, Charles F. Folkman and Edward Felshow, all of Clintonville; Charles Hagen, Appleton, Wis.; Antone Kuckuk, Shawano, Wis.; A. A. Washburn, Horicon, Wis.; James A. Bell, Menominee, Mich.; Fred R. Scobie, Berlin, Wis. The directors elected Antone Kuckuk, president; Charles Hagen, vice president; Charles F. Folkman, treasurer; James A. Bell, secretary and general manager.

The Menominee line of trucks has been on the market since 1909, and consists of 1, 1½, 2, 3½ and 5-ton worm drive models. The company now has orders for more than it is able to turn out.

Gramm-Bernstein Truck in California

The Gramm-Bernstein truck has re-entered the Southern California territory, where the distributing agency has been secured by Walter H. Fisher, of Los Angeles, well known as local Haynes car dealer.

Northern California will be covered for Gramm-Bernstein trucks by Philip S. Cole, Inc., of Oakland, who have named Koerber-Watkins Co., of San Francisco, a subdistributor.

Greater horsepower output without increased size, more fuel economy—greater speed—the three chief 1920 production aims.

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The Bethlehem Delivery

Speed, Endurance and Economy—these three qualities reach their development in this newest Bethlehem Motor Trucks.

The Bethlehem Delivery Boy completes a line of trucks which en dealer to cover his field with greatest profit. Is your territory

¾ Ton Chassis	2½ Ton Chassis
1½ Ton Chassis	3½ Ton Chassis

BETHLEHEM MOTORS CORPOR
ALLENTOWN - - - - - - - - PENNSY

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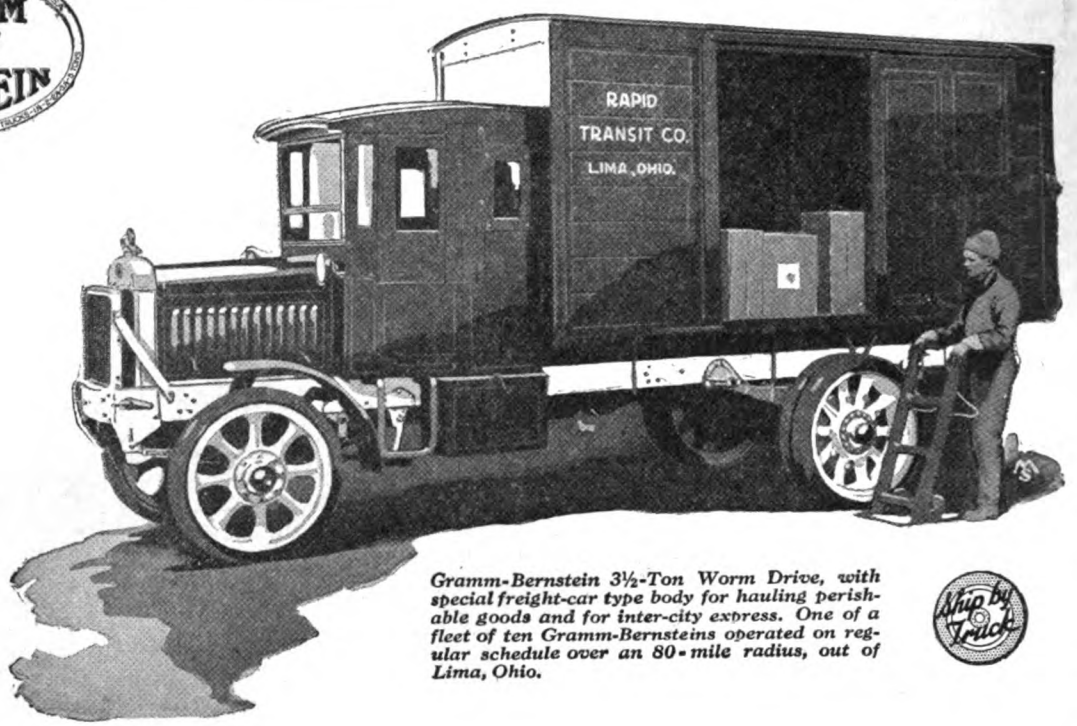
GRAMM-BERNSTEIN TRUCKS



Gramm-Bernstein 3½-Ton Worm Drive, with special freight-car type body for hauling perishable goods and for inter-city express. One of a fleet of ten Gramm-Bernsteins operated on regular schedule over an 80-mile radius, out of Lima, Ohio.

Ship by Truck

It Establishes Its Own Preference

The Gramm-Bernstein Truck is always worth its price.

It is not a difficult matter for the Gramm-Bernstein dealer to establish this fact.

It is all the easier because he is not obliged to justify price by comparison with other trucks.

The Gramm-Bernstein design contains certain fundamental patented superiorities.

These betterments give the Gramm-Bernstein truck the advantage, because they are not to be found in any other trucks.

The exclusive, constant-mesh transmission, the patented power take-off, the oilless universal joints, the radiator shroud, the complete equipment, and other individualities, in themselves, make the truck worth more.

The dealer does not have to waste time and effort in explaining away price differences.

He sells the Gramm-Bernstein Truck on its distinctive superiorities of construction and service, made possible by B. A. Gramm's twenty years of development in the organization and the building of better trucks.

Because the dealer does not have to enter competition, he establishes Gramm-Bernstein preference more quickly and with greater profit and reputation to himself.

All Gramm-Bernstein Transmissions are provided with a pad for attaching Gramm's Basic Power Take-off. Dealers and truck owners should assure themselves that any trucks purchased with power take-off do not infringe B. A. Gramm's Basic Patent No. 1194994.

The Gramm-Bernstein Motor Truck Co., Lima, Ohio

Pioneers Since 1901—Builders of the First Liberty (U. S. A.) Truck

F. B. CLARK, West Coast District Sales Manager

Room 401, 143 Second St., San Francisco, Cal.

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REPUBLIC TRUCKS

The ruggedness of the Republic is amazing. Its reputation in this respect is so remarkable that it undoubtedly is regarded as the most dependable truck in America. It stands up, and keeps on standing up—for years! More business men use the Republic than any other truck—over 60,000 of them. The point is, they keep on adding new units to their Republic fleets. Proof of Republic economy, in other words, is overwhelming.

Republic Motor Truck Company, Inc., 941 Michigan Avenue, Alma, Michigan

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How Dobbin Gums the Works

Kissel Observations Seem to Prove that Sooner Horse Is Put to Pasture, Better for All Business

A JAM of trucks and cars on the busiest streets often is caused by horse-drawn vehicles, is the observation of students of such things in the Kissel organization, who say that statisticians searching traffic conditions in principal cities, for the purpose of eliminating congestion, estimate that horse-drawn vehicles cost the country hundreds of thousands of dollars annually in delayed delivery schedules resulting in missing shipping dates.

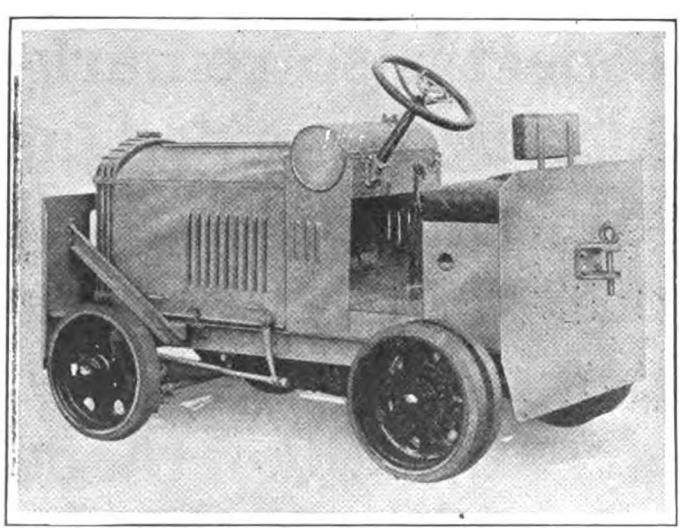
Thus when a manufacturer's load of mechandise is held up, the wholesaler or jobber to whom the consignment of goods is scheduled, is held up in receiving it, which in turn makes it necessary for the wholesaler to disappoint the retailer, who, in turn, cannot supply the goods to his customers.

Today, when uninterrupted transportation is an absolute necessity, when the different industries are called upon to work full force to make up the time lost in the last two years, it is to the advantage of the nation as a whole to eliminate these delays.

To do this, many cities in different parts of the country have laid plans to separate streets for horse-drawn equipment so that traffic jams can be reduced to a minimum. This can be accomplished in several ways. For instance, the business streets running parallel can be divided, one for motor driven vehicles to be driven in one direction, while on the next street these same vehicles can return without interfering with the flow toward the point they are leaving. Then one-half the next street can be devoted entirely to horse-drawn vehicles going in one direction, while the other half can be devoted to horse-drawn vehicles returning.

The point is made that if we are to continue using horse-drawn vehicles, it would be advisable for both the railroads and steamship companies to build separate shipping platforms. If this is done it would be only a short time before owners of horse-drawn vehicles would realize the immense waste this means of transportation is causing them. They could not help noticing how their competitors using motor driven vehicles deliver two and three times as many loads as they, at practically the same cost, if not slightly under it. This would not be the only result. The horse-driven vehicle owners could not compete in the matter of wholesale prices with the owners of the motor driven vehicles at the same expenditure of time and money. It would take an owner three times as long to deliver his goods as his competitor, costing him just three times as much to deliver his goods. Thus his competitor could afford to sell his goods at a lower price than if he had to spend the same money on a slower means of transportation.

Again referring to this matter of receiving and discharging loads for shipment: A motor truck can be backed into a space that is only slightly wider than the truck itself. There is no difficulty in doing this if the driver is expert, and he can do it in a very short time. But take this same space with a horsedrawn vehicle trying to back into it—it is a matter of sawing back and forth, and if he has a particularly heavy load it is almost impossible for a horse to guide it. Again, he may have two or three horses, which makes it all the more difficult to handle them without interfering with traffic going in either direction in front of them.



GASOLINE-DRIVEN TOWMOTOR PULLS HEAVY LOADS AROUND INDUSTRIAL PLANTS.

Said to be 20 to 30 per cent cheaper than electrics, as well as being faster, more powerful and requiring less care, the Towmotor is being marketed by the Towmotor Co., Cleveland, O. This gasoline industrial tractor is said to be strong enough to move freight cars, while economically operating on light loads as well, in factory plants. It is specially designed for its purpose. It sells for $1950 f. o. b. factory. It has a 4 cylinder 4 cycle Wiedely motor, S.A.E. rating 22.5 horsepower, capable of 40 horsepower at 2000 revolutions. It has removable heads and overhead valves. Its high torque and flexibility fit it for heavy pulling. All motor parts are fully enclosed. Its speed is up to 15 miles per hour, controlled by governor. It has cast steel disc wheels; solid tires; a compact, powerful looking machine, weighing 3200 pounds.

Advantage of Studying Traffic Routing

Railway companies employ expert traffic handlers; men who sit before charts as a general sits before his maps; men who save their salaries thousands of times over. Their functions include preventing "empty" return trips, re-routing, etc. By detouring 77,669 freight cars, one railroad company saved an average of 155 miles per car, says a Kissel observer. Likewise, he says, it has proved that operators of motor truck fleets, by carefully studying the highways leading to shipping destinations, can effect a saving of from 20 to 28 per cent in mileage and time. This saving, of course, lessens depreciation and operating expense. There is no reason why every truck owner or operator cannot reduce mileage and time to some extent by this practice.

Cooper Becomes Keystone Sales Manager

M. S. Cooper has left the sales department of Willys-Overland, Inc., to become sales manager of the Keystone Motor Truck Corp., Philadelphia. This organization will manufacture a new ton truck, the Keystone. Mr. Cooper went to Willys-Overland six years ago, and his employment was continuous except for 14 months spent in France during the war. He was commissioned a major in the Motor Transport Corps. During his service with Willys-Overland he had charge of the commercial car division of the sales department, and more recently was handling quantity sales.

Used Night and Day for Nineteen Months

Nineteen months ago H. S. Cook, who handles mail for the Los Angeles post office, began using a Moreland motor truck of 2½ tons capacity. It has been on 24-hour duty constantly ever since, including Sundays, so steadily that it is said never to have stopped long enough to cool its engine. Its duty is to thread congested streets, collecting and delivering mail. Cook has used during the same period, in the same way, another 2½ ton Moreland bought at the same time but which is now more than four years old. Two good examples of motor truck durability.

General Motors Truck Co. to Make 20,000

Based on dealer inquiries at the national shows, the 20,000 schedule of General Motors Truck Co. will hardly meet the demand. Model 16, the ¾ to 1-ton truck, will lead. It has the same chassis as was used for ambulances by the American, British and French armies where the going was the worst. This model, with pneumatics as standard, is not only rugged but speedy—important in view of extension of delivery routes.

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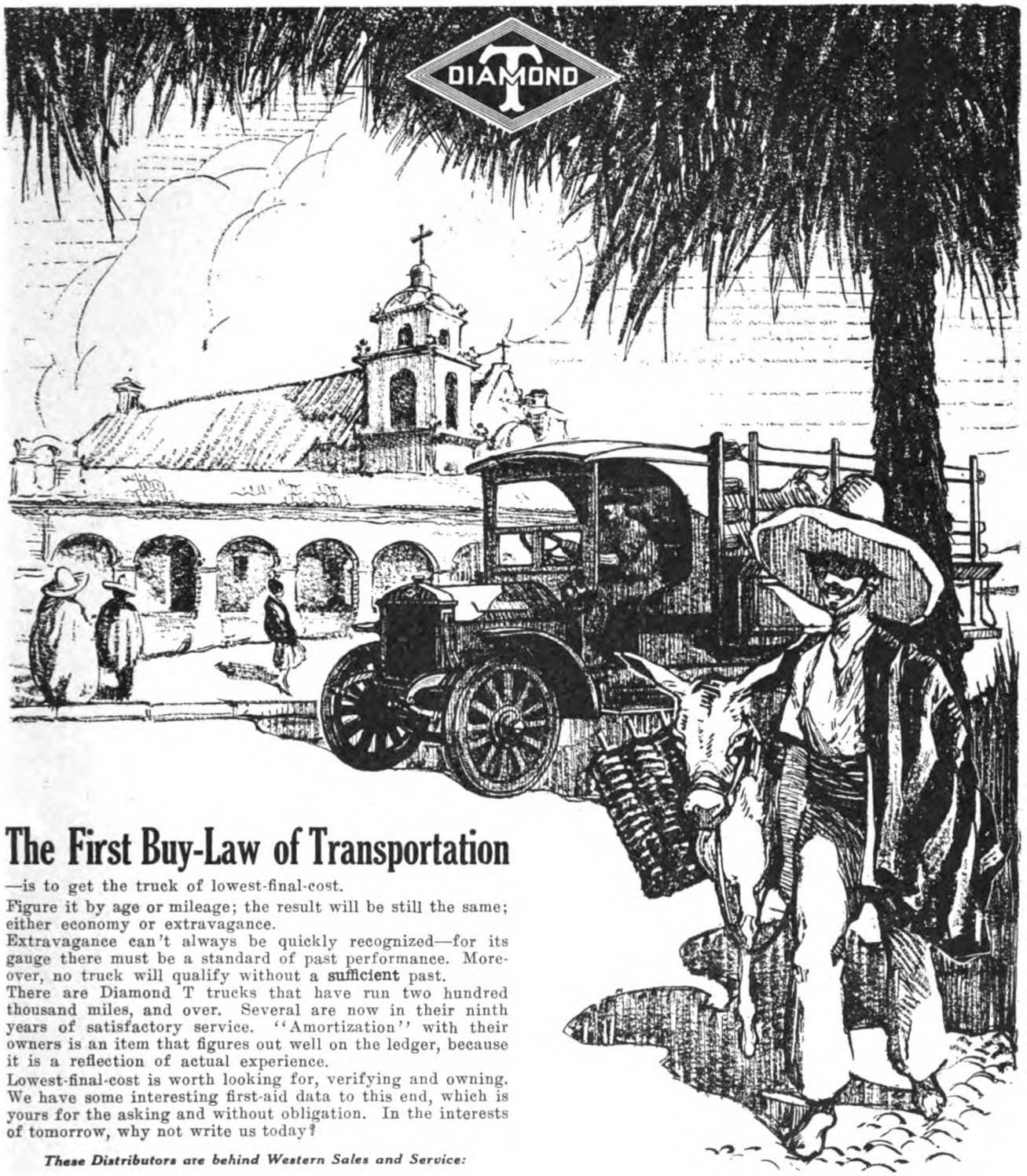

The First Buy-Law of Transportation

—is to get the truck of lowest-final-cost.

Figure it by age or mileage; the result will be still the same; either economy or extravagance.

Extravagance can't always be quickly recognized—for its gauge there must be a standard of past performance. Moreover, no truck will qualify without a **sufficient** past.

There are Diamond T trucks that have run two hundred thousand miles, and over. Several are now in their ninth years of satisfactory service. "Amortization" with their owners is an item that figures out well on the ledger, because it is a reflection of actual experience.

Lowest-final-cost is worth looking for, verifying and owning. We have some interesting first-aid data to this end, which is yours for the asking and without obligation. In the interests of tomorrow, why not write us today?

These Distributors are behind Western Sales and Service:

Diamond T Truck Company of Washington
Distributors for the State of Washington
1122 East Madison St., Seattle, Wash.

Hirsch Motor Company
Distributors for Upper California
1131 Van Ness Ave., San Francisco, Cal.

Diamond T Truck Sales Agency of Oregon, Inc.
Distributors for the State of Oregon
89-91 North Ninth St., Portland, Ore.

Diamond T Pacific Truck Co.
Distributors for Lower California
1220 S. Grand Avenue, Los Angeles, Cal.

DIAMOND T MOTOR CAR COMPANY :: 4525 West 26th Street, Chicago, Ill.

COMPLETE LINE 1½ TO 5 TONS

"The Nations' Freight Car"

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Actual photograph showing Goodyear Cord Tires in heavy duty service for Rochester Bridge Company of Rochester, Indiana

Copyright 1920, by The Goodyear Tire & Rubber Co.

GOODYEAR

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Pneumatics Throw Open New Highways

"PNEUMATIC tires enable us to use a motor truck—otherwise only teams could haul our steel girders and supplies to bridge construction over soft fields. Your Goodyear Cords save truck, time, labor—enable us to do work otherwise impossible."—O. E. Nichols, Superintendent of Construction, Rochester Bridge Company, Rochester, Indiana

THIS vivid word picture describes one of innumerable instances in which pneumatic tires now make the employment of motor trucks possible as well as profitable.

Men and industries find that the tractive, cushioning, easy-rolling pneumatics free them from tedious team hauling by freeing trucks of the handicaps imposed by solid tires.

The present rapid adoption of the pneumatic truck tire has its basis in the high development of Goodyear Cord construction, begun many years ago by Goodyear.

This method of manufacture, combining extreme resilience and toughness, is the foundation of every virtue of the pneumatics by which they multiply the utility and economy of motor trucks.

Goodyear has not only worked out Goodyear Cord construction but also has pioneered its application in heavy transport duty with pneumatic-shod fleets—the Akron-to-Boston Express, the Akron-to-Cleveland Freight Line, the Goodyear Heights Busses, and similar undertakings.

Now very complete cost data, developed by these pioneer caravans, and detailing the economy of pneumatics in comparison with solid tires, can be obtained by writing to The Goodyear Tire & Rubber Company, at Akron, Ohio.

CORD TIRES

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How L. A. Feeds San Diego

Truck Line Carries Meat Overnight From Wholesale Market to 36 Butchers in Southern City 150 Miles Off

THOUSANDS of San Diego people served by 36 butcher shops of that city are dependent for their daily supply of meat upon motor truck stability and efficiency.

For their solid daily rations of fresh meat, delivered in a minimum of time and handling, they look to the fleet of powerful trucks operated between Los Angeles and San Diego by the Boulevard Express. So far as known this is the longest distance covered by any motor truck line hauling this class of perishable goods.

For over 18 months the faith of the people in the dependability of this service has been justified. It has been a remarkable, concrete demonstration of the practical efficiency of what is to come in motor truck express development.

In this service the Boulevard Express used one 4-ton and five 2½-ton Moreland trucks, all of which have given splendid service. The performance of the oldest of the trucks, a 2½-ton, is phenomenal. This truck is loaded at the big wholesale meat house in Los Angeles daily, except Sunday, with four tons or more of meat. It leaves the Los Angeles terminal at 776 Wall St., at 5:30 p. m. for San Diego and arrives there at 4 a. m., covering on an average 140 miles to the trip. It is loaded the next day with fish and returns to Los Angeles. For 13 months it never missed a trip and in 18 months was late on its schedule, not over four hours, only three times.

This truck has run over 90,000 miles. It has been driven constantly by "Charlie" Wells, who is widely known in the Southland as a good driver. In this time valves have been ground three times, brakes relined once, bearings taken up three times. One general overhauling job took care of part of this work. At this time new parts were put in where not really necessary. Then the total cost for parts was not over $50. The truck has averaged to make the 140-mile daily run on 14 gallons of distillate and one quart of oil. The 36x4 solid front tires have averaged 30,000 miles although some have gone as high as 36,000. The 36x7 solid rear tires have averaged 22,000 miles, with some as high as 28,000. The truck is geared 6 to 1 and averages about 20 miles an hour on its trips.

Charles D. Boynton of the Boulevard Express, who has kept a very careful record of the trucks in its service, figures depreciation on this truck at less than 5 per cent and is enthusiastic over the general performance of its Morelands. Because of change of drivers and less care shown in this respect, he figures its other Morelands to have done about 65 per cent as well, which he considers a remarkable showing. The company started in to haul only perishable goods, but is now carrying anything in the line of freight and express, including recently the baggage for the Hippodrome Company, which it shipped to San Diego in record time.

Seig Made Republic Assistant Sales Head

E. E. Seig now is assistant sales manager of the Republic Motor Truck Co., Alma, Mich. W. R. Tomlin, formerly his assistant, succeeds him as credit man. Mr. Seig has been with the company since its organization, and his present promotion is a step in his progress through various divisions of the company, with the policies and plans of which he has eaten, lived and slept.

Brummeler-Ruggles to Make Cabs

The Brummeler-Ruggles Metal Products Co., Grand Rapids, capitalized at $50,000, will make metal cabs for motor trucks. A plant will be erected this spring.

"Giant" Repairmen Coming

Firestone Engineers Predict Many Shops Will be Taking Care of Motor Truck Pneumatics Soon

GIANT pneumatics for trucks provide a lucrative field for the repair shop of the future, in the opinion of Firestone engineers who have been studying methods by which maximum mileage may be obtained from these big tires.

Steadily increasing use of the pneumatic-tired truck has created a need for adequate repair methods, and tire men predict that in a short time the tire shop that is not equipped to handle this kind of work will be the exception. Already dealers are evincing a great interest in the progress that is being made because they realize that increased mileage made possible through economical and durable repair work will mean increased sales of pneumatic tires for motor trucks.

Equipment for work on the big sizes of tires has not been available in large quantities, but the tire companies and equipment manufacturers have been working hand in hand, and assurance is given that a general demand for equipment soon can be supplied.

Firestone engineers have been experimenting on giant pneumatic repairs and see nothing to prevent effective results by any competent repair shop. The methods to be used are in no way a radical departure from those used in making repairs on the smaller sizes of cord tires.

For sectional repairs two general methods are considered practical. Where the tread is only slightly damaged and the fabric not badly separated an inside cord patch and an outside tread patch will be found effective. For large sectional repairs, the outside should be built up in a manner similar to that used in building up a section of a smaller cord tire and the repair should be reinforced by an inside cord patch. If the tread is in good condition it may be laid back while the section is being rebuilt. If not, it should be replaced by a section of non-skid semi-cured tread band. For retreads, use of the semi-cured non-skid retread band is recommended and the raised cure has been found to be effective.

Either sectional or dry cure molds may be utilized in vulcanizing the repair. The cure, in most cases, must be of longer duration than it is in repairing the smaller sized tires, the time depending largely on the size and nature of the repair.

Why Useful for Hauling Mail, Potatoes

In a talk to division sales managers on the need of government participation in road-building with respect to the cost of living, E. T. Herbig, general manager, told how Congress was given proof of the transportation economy of motor trucks. It was shown that five, operating in the mail service the latter half of 1919 in Pennsylvania, cost the government $14,588, including operating and administrative expenses. The receipts were $52,067; the profit, -$37,479. From these figures it was estimated that hauling potatoes in trucks to the national capital would save over a billion dollars yearly, and that economy on other farm products would be in proportion. For instance, eggs. Washington eats 6,800,000 dozen a year. They could be brought in for 2 cents a dozen by motor truck, compared with 19 cents by present methods. Think how that would increase the efficiency of Congressional mental pabulum!

Salmon Sails on Selden Business

Robert H. Salmons, vice-president of the Selden Truck Corp., of Rochester, N. Y., in charge of foreign business, is on an extended trip to the West Indies, including Cuba, Haiti, Sante Domingo, Porto Rica and Jamaica. Selden trucks are already represented in some of these countries. The trip will cover several months.

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Dayton WHEELS

Better Wheels

Behind the phenomenal success of Dayton Steel Wheels are three mechanical superiorities—annealed electric furnace steel, with hollow spokes and rims, and graceful bridge-like arches.

Because of these fine qualities of design and structure—and each is of equal importance—Dayton Steel Wheels are resilient, light, strong, economical and durable.

These wheels are giving 100 per cent service on more than 40 of the leading makes of trucks—they will give the same service on your trucks.

Let us send you our bulletins and folders. Write for them today.

The Dayton Steel Foundry Company, *Main Office & Works,* **Dayton, Ohio**

Detroit: 702 Penobscot Bldg. Los Angeles: 3769 Moneta Ave. Cincinnati: 416 First National Bank Building

Dayton

Steel Truck Wheels

Patented

Please Mention "Motor West" When Writing to the Advertiser

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Introducing four New Models

Strength! Power! Service!

Things that motor truck users of today insist upon. Qualities you as a dealer must look for in selecting a line of trucks to sell.

For 12 years, United States Motor Trucks have satisfied dealers and users on these and many other requirements.

The 1920 models emphasize, to a far greater degree, these features of United States Motor Trucks.

Look at the models on the opposite page. What do you see? Strength—massive, not too heavy for the service they must perform. Powerful—plenty of power for any emergency—not overpowerful or wasteful of energy.

Combine the two—Strength and Power—and get Service. United States Motor Trucks, always efficient in operation, permit great savings of oil, gasoline, tires and repairs.

Two years ahead in engineering design, construction, materials and refinement of details. Many unusual features, all incorporated for the first time in one line of trucks, are to be found in these new models.

Floating Power Plant. Special U. S. motor with hot spot manifold. Vacuum Feed. Worm drive. Seven inch cushions for driver's comfort. Hotchkiss drive. Cast radiator with vertical tubes. Three-piece hood. Fireproof dash. Worm and block type steering gear. I-beam front axle. Multiple disc clutch. Four speed transmission. Tubular drive shafts equipped with noiseless and oilless universal joints. Silico-manganese springs.

Each part has proven itself the correct unit by rigid test. Each part will perform as expected. Each part gives the added factors of safety so needed in heavy duty trucks.

DEALERS

You are going to sell motor trucks. Sell a complete line, one that fills every hauling need of your customers'. The United States line with a wide range of haulage capacities is the one you need.

The United States line spells "Opportunity" for you. It means money, success and satisfied customers.

Reserve your territory before it is gone. Don't let your competitor get in ahead of you.

Our dealer proposition is especially attractive to all, whether you are a new dealer, or an established dealer contemplating a change.

ADDRESS

W. P. KYLE,
The United States
Motor Truck Company
Cincinnati, Ohio.

The United States Motor Truck Company

INCORPORATED

CINCINNATI, OHIO

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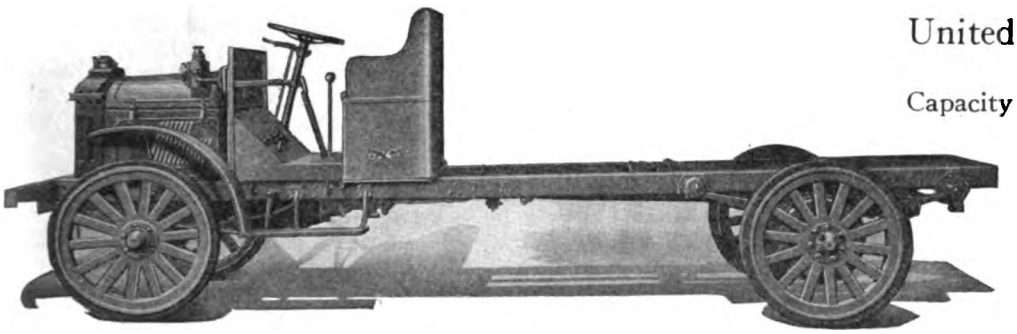
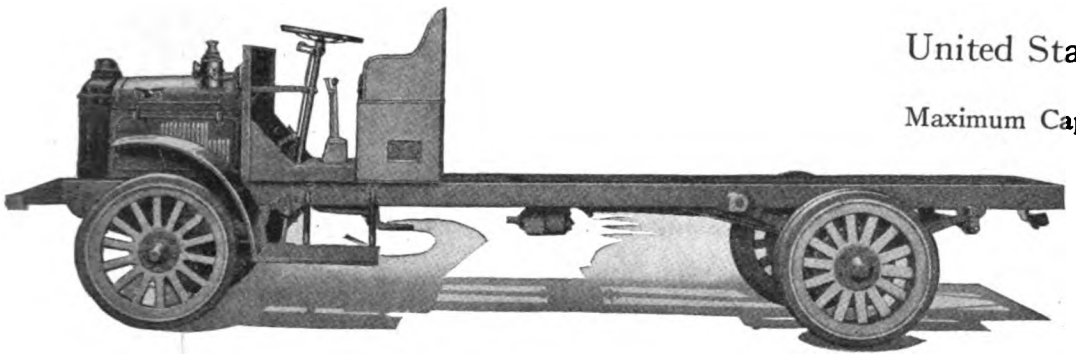
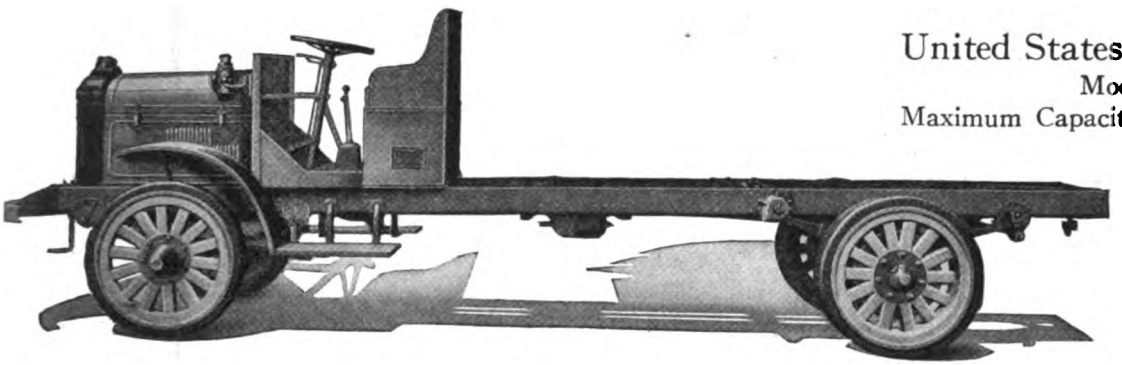


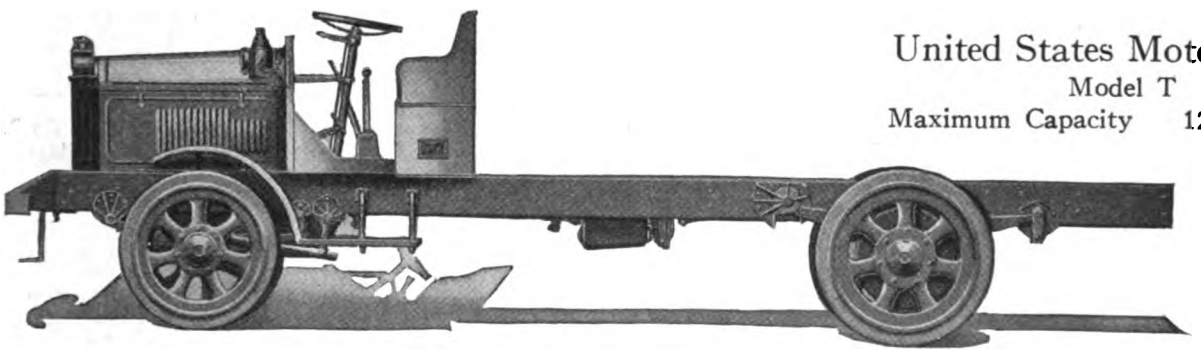
United States Motor Trucks
Model NW
Capacity - - - 1½ tons



United States Motor Trucks
Model R
Maximum Capacity 6,000 pounds



United States Motor Trucks
Model S
Maximum Capacity 8,000 pounds



United States Motor Trucks
Model T
Maximum Capacity 12,000 pounds

United States Motor Trucks

FLOATING POWER PLANT

"AS GOOD AS THE NAME"

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Seven-Speed Truck is Fast

Double Round Trip from San Francisco to Los Angeles and Return, by Fageol, at 25 Miles Per Hour.

AS a forerunner of fast inter-city express freight service by motor trucks the double round trip test run of a Fageol 3½-4 ton model, between San Francisco and Los Angeles, is pointed to as indicative of what may be the performance with trucks equipped with the new seven-speed compound transmission. An average speed of approximately 25 miles per hour on the double round trip run between the two principal cities of California—a distance of 1,765 miles—was maintained with capacity loads of freight consigned to business concerns in San Francisco and Los Angeles.

Following the California state highway along the Coast on the southward trip, the first test started from Third and Market streets, San Francisco, at 9:15 p. m., January 5, and ended 19 hours 53 minutes later at First and Broadway, Los Angeles, after 460 miles of strenuous driving. The actual running time, with stops for gasoline and meals deducted, was 17 hours 5 minutes, an average of 26.5 miles per hour. This may be compared with the schedule of the crack passenger trains on the Southern Pacific Railroad, the Lark via the coast line taking 14 hours 50 minutes, and the Owl, through the valley, doing the trip in 15 hours 30 minutes.

The return trip was made via the Ridge Route, over the Tehachapi mountains, and through the San Joaquin Valley on the state highway. The distance was 427 miles and was covered in an elapsed time of 16 hours 39½ minutes. The actual running time was at 27.3 miles per hour.

In the first round trip test run of 887 miles more than 30 towns and cities, two mountain ranges of considerable importance, and numerous ranges of hills, with varying steep grades and slow going, presented traffic and pulling tests that proved the value of the new equipment. With such hindrances to speed, even though the roads were practically all good, it necessitated making a speed of from 30 to 40 miles per hour on the open stretches of level highway.

That such a speed is attainable with a motor truck carrying a capacity load, and can be maintained over long reaches of roadway without seriously affecting the motor or truck mechanism through excessive vibration is regarded as little short of marvelous. With the ordinary three or four-speed gearset it is a practical impossibility, as the truck and motor would be shaken to pieces. It is accomplished through the fifth forward speed—an over gear which, while not increasing the engine revolutions per minute or consuming more fuel, still gives the truck 36 per cent more speed than a truck fitted with a standard transmission.

The steep pitches on the grades through Gaviota Pass, the long steady pull up Cuesta grade between Atascadero and San Luis Obispo, and the no less severe trip up San Juan grade, with more than four tons of pay load, showed the great advantages of the new seven-speed compound transmission when in extreme low gear. The additional low increases the pulling power of the Fageol, it is claimed, 91 per cent above the best obtainable pulling power with an ordinary three-speed transmission.

A second round-trip test run was made, beginning in Oakland January 8, and ending with the return of the heavily laden Fageol to San Francisco, January 12, in which the actual mileage traveled was 878 miles, at an average speed of 26.8 miles per hour for actual running time.

On the first run south, Goodyear pneumatic cord tires on steel wheels were used, coming through the hard trip without a scar. On the second run Goodrich DeLuxe solid tires on Sewell patented wooden cushion wheels were used, and one of the surprises of the two trips was the better time on the solid tires. On the pneumatics an average of 25.1 miles per hour was maintained, while on the solids 26.8 miles was the average speed. On the rear wheels, on the solid-tire trip, the tires were dual. Although on the solid-tire trip, especially on the return trip from Los Angeles to Oakland, the elapsed time was shorter than with pneumatics, this was perhaps due to several delays to the latter on the way down, including an arrest for driving through Santa Barbara at almost 40 miles an hour. The solid tires showed wear on their return trip and General Sales Manager Fort, of Fageol, believes they would not stand up under the terrific strain of the speed possible with the seven-speed transmission.

For the speed of the two round trips and the heavy loads carried the gasoline consumption was low. On the first trip an average of 8 miles per gallon was proof of the Fageol Motor Co.'s claim that economy of operation is possible on motor trucks traveling at high speed with the help of the new seven-speed compound transmission.

On the first round-trip test, the weight of truck and load, southward, was 17,400 pounds; on the return, 14,800 pounds. On the second round trip the total weight on the southward run was 15,500 pounds; on the return, 15,000 pounds.

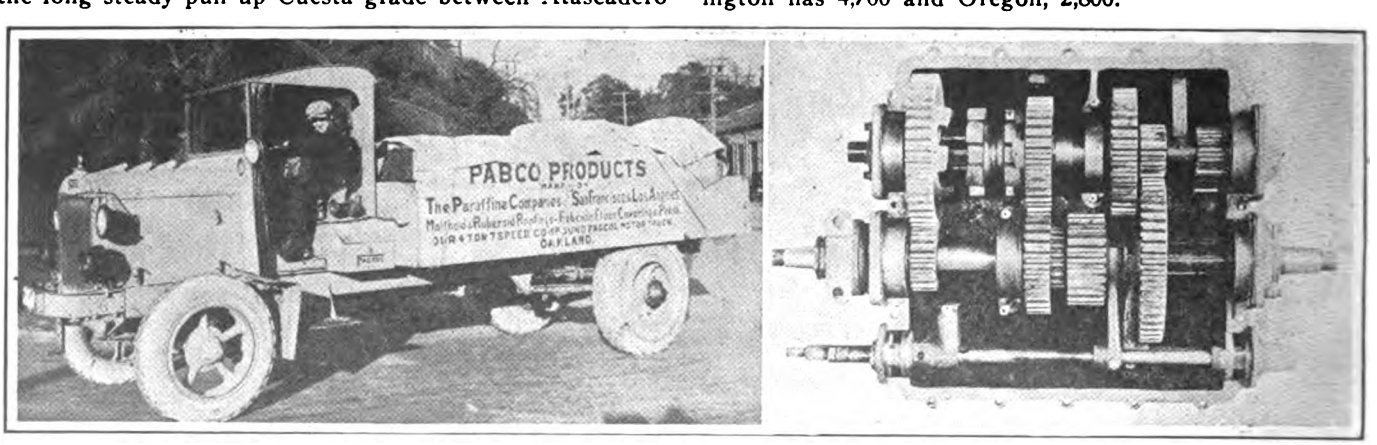
On each return trip, after arrival at Oakland, the truck was taken to San Francisco and driven over the famous Fillmore Street hill, a 25 per cent grade as shown on the official map of the city engineer.

Hurlburt Takes Over Harrisburg Plant

The reorganization of Hurlburt Motors, Inc., New York, maker of heavy duty motor trucks, and its consolidation with the Harrisburg Mfg. and Boiler Co., increases its capacity greatly and makes its equipment very complete.

Coast Has 34,000 Trucks

According to recent estimates, there are now about 34,000 motor trucks on the Pacific Coast. About three-fourths, or 26,500 of these, are in California, while Washington has 4,700 and Oregon, 2,800.



VIEW OF THE FAGEOL SEVEN-SPEED MOTOR TRUCK, AND OF THE MECHANISM OF THE GEAR.

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Field DURABLE BODIES

An Enduring Investment

In the good will of your customers—that's the truth about *every Field Body you sell.*

Field Durable Bodies are built to give *permanent satisfaction.*

They possess great strength, with the lightest weight consistent with that strength.

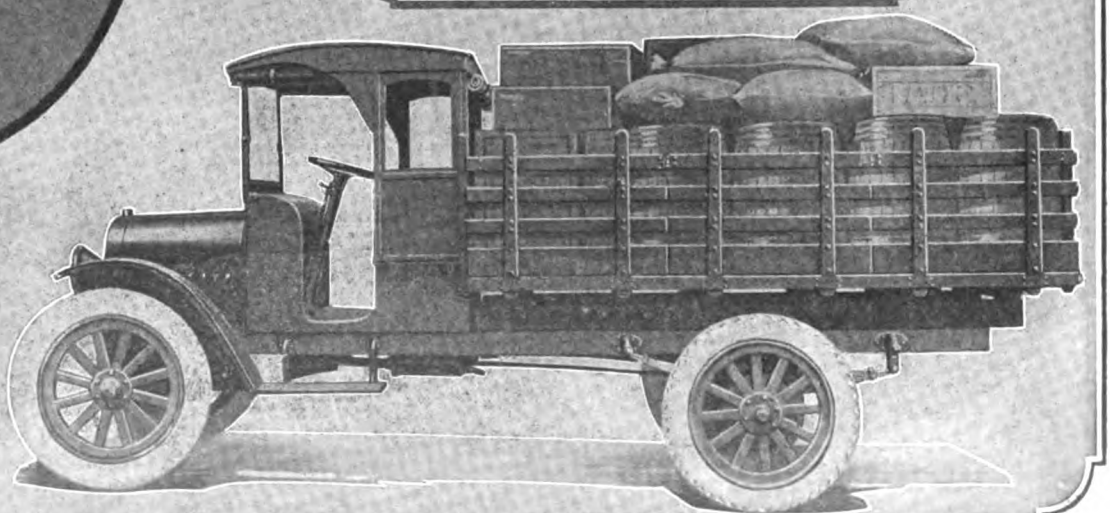
The bolster construction, for instance, is most substantial. Guardangles, stake pockets sills and floor are tied solidly together—a feature found *only* in *Field's.*

Our manufacturing facilities are complete, and so large that we produce Field Bodies at a price surprisingly low.

Our knockdown shipments secure lowest freight rates. A complete line of *Ford Bodies* always in stock. We are originators of the interchangeable unit idea for trucks.

Write for prices and full description.
Address Dept. X.

FIELD MANUFACTURING CO.
OWOSSO, MICHIGAN, U. S. A.
Largest Exclusively Truck Body Plant in the World.



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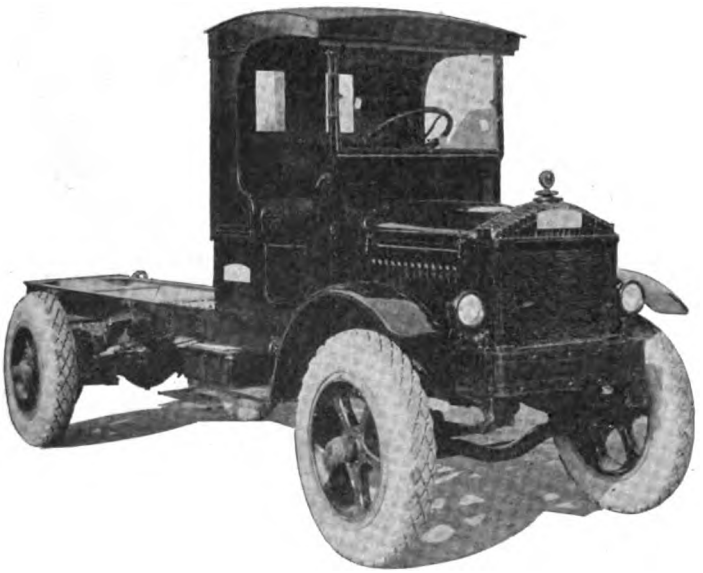
HEADIN' WEST!

Electric
Starting
and
Lighting



1½
2½
3½
Tons

The "KALAMAZOO"

"The Hand-Made Truck"

Unsurpassed opportunities for West Coast Distribution. Write—

Kalamazoo Motors Corporation, Motor Truck Division, **Kalamazoo, Michigan**

Protect Yourself and Your Car

WITH A

TROUP

Auto Side Signal and Mirror

ONLY $7.50

UNTIL MAY 1st

Approved by the Motor Vehicle Dep'ts of California and Arizona

Visible To Traffic In Front and Rear

Help To Make

TRAFFIC SAFE

TROUP

AUTO SIDE SIGNAL CO.

3034 South Main St., Los Angeles, Cal.

Phone South 576

International Motor Co. to Issue Magazine

D. O. Skinner, advertising manager of the International Motor Co., manufacturers of Mack trucks, announces that plans are completed for the "Mack Bulldog," a new trade magazine to be published by this company. The first issue will appear in February. The publication, edited by H. C. Bailey, formerly manager of the Mack branch in St. Louis, is intended to be the most comprehensive and elaborate of its kind; size 9x12 inches; profusely illustrated. It will be published in the interests of motor truck owners and operators. The adaptation of the motor truck to the different fields of business will be a prominent feature.

Fulton Motor Truck Co. May Reorganize

The protective committee of the Fulton Motor Truck Co., of Farmingdale, Long Island, has sent shareholders a letter on the subject of removing the receivership. The total indebtedness is said to be $200,000. The plan is to pay that, and 3 per cent of the balance monthly, with interest; $200,000 to be set aside as security to creditors; $50,000 more to be used as immediate working capital. The total, $300,000, it is suggested be raised by subscription to that amount of first mortgage 6 per cent bonds covering the property.

New Board of Directors for Denby

Reorganization of the Denby Motor Truck Co. means more working capital and a stronger position than ever by acquisition of very able men. The new directorate comprises Maj. Edward Denby; J. Walter Drake, chairman of the Hupp board; Carl H. L. Flintermann, vice-president and general manager Detroit Pressed Steel Co.; H. D. Taylor, vice-president McCord Mfg. Co.; Thomas H. Simpson, credit manager Continental Motors Corp.; and Edgar R. Ailes, treasurer Detroit Steel Products Co.

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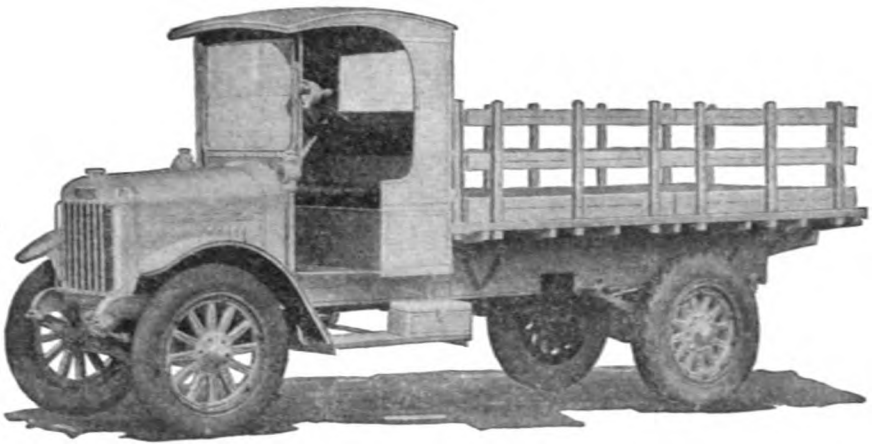
WOLVERINE

Some Good Dealers Territory is still open.



If interested, wire or write at once, as all territory will be covered very soon.

The Truck of Good Service

An up-to-date truck in every respect which will give 100% service to the owner. Fully equipped with electric starting and lighting system including a searchlight.

MANUFACTURED BY

AMERICAN COMMERCIAL CAR COMPANY

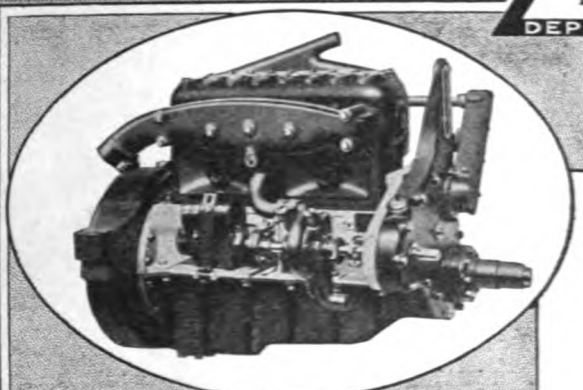
DETROIT, MICH.

TRI-ANGLE

POWER SERVICE MOTOR TRUCK DEPENDABILITY

A Three-Fold Value

¾ · 1½ · 2 Special & 2½ Ton Models



Great Power at Low Speed

The TRIANGLE TRUCK is powered with the heavy-duty Waukesha High Torque motor.

"High Torque" really means great "Twist-Ability." It means maximum power at low speed. You don't need to shift gears and race in a pinch.

In other words, TRIANGLE designers believe it common sense to use a distinctively *Truck-Type Motor in a Truck.* The great motor economy and long life of TRIANGLE TRUCKS are the result of this common-sense power plant.

Your territory may still be open.
Address or write Dept. C.

Eastern Representatives
TRIANGLE MOTOR SALES CO.
381 Fourth Ave. New York City

New England Distributors
Eugene F. Lally and Sons Co.
Boston, Mass.

TRIANGLE MOTOR TRUCK COMPANY

St. Johns, Michigan

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Many Metal Mules at Show

Tractor Section In San Bernardino Annual National Orange Exposition Requires Two Tents for Exhibits

Year by year the National Orange Show at San Bernardino, Cal., takes on new features which add to its usefulness and permanency. At the recent show, not only were automobiles and motor trucks much in evidence, but tractors were a strong factor in the success of the affair, which also had a much larger attendance than ever before. The industrial exhibits shared citrus displays in the main tent and overflowed into others, and into the concession area; and for the tractors and implements two special tents were necessary. Dealers of the citrus belt cities, implement houses, and factory men from Los Angeles, exhibited.

The Cleveland Tractor Co., through the San Bernardino Motor Car Co., exhibited the Cletrac tank type. M. H. Robinson of Los Angeles, Southern California representative of the factory, was there.

Two Case tractors were shown by the San Bernardino Implement Co. F. T. Briles, Los Angeles, showed the Bates Steel Mule. The Tioga Co. of Southern California, a Tioga; A. Difani & Sons, Riverside, the Fageol; Union Tool Co., Torrance, a Union Sure-Grip; Far-West Sales Co., Los Angeles, a Midwest Utilitor; W. L. Cleveland Co., Los Angeles, the Kardell Utility; Jack A. Brewster, San Bernardino, the Stockton.

F. E. Stokes, of the Los Angeles branch of the Avery Tractor Co., had charge of the Avery exhibit, including a machine with three guards, for orchard use, and an Avery motor cultivator. The Twin-City tractor was shown by J. H. McCarren, San Bernardino; the Wallis tractor and Case plows by the Douglas Boswell Co., Los Angeles.

With B. H. Green, Los Angeles distributor, in charge, two Monarch tractors for orchard and field were shown by Allen & Son, San Bernardino. Allwork tractors were exhibited by the L. M. Railsback Co., Los Angeles. The A. F. George Co., Los Angeles, showed the Yuba.

Farm lighting plants, pumps, sprayers, etc., were shown as accessories to the main exhibits.

Fifty Carloads of Cletracs Sold at Show

One of the stirring occurrences at the recent national show at Kansas City was the sale of 50 carloads of Cletrac tank-type tractors, made by the Cleveland Tractor Co. This was the result of a price reduction of nearly $200, and the announcement of decided improvements.

Advertisements preceding and during the show week, in a widespread campaign, did the trick. The response from both dealers and farmers at the show kept the Cletrac booth in a bulging condition. The Kansas City distributor entertained 55 dealers and immediately turned in an order for 150 machines—the largest single order the company ever received, though the Cletrac is established in 51 different countries. Next day the Cleveland company's Southwestern district sales manager brought in 25 dealers and turned in orders for 253 machines for immediate delivery. Orders for 63 for the Omaha district, and a number of floor sales, brought the show week's total sales to about 500 tractors, or 50 carloads.

The improvements include a larger motor, with no increase in rating; a wider track; improved air washer; slightly less weight but even more strength to carry the increased power; and other points. The former price was $1,585, f. o. b. Cleveland; the new price is $1,395.

Brockway GetsEuropean Orders

George A. Brockway, president of Brockway Motor Truck Co., Cortland, N. Y., recently returned from Europe with a large order covering five years and calling for greatly increased production over 1920. Accompanying Mr. Brockway was Senator C. R. Lusk, chairman of the "bolshevik" investigating committee, who is counsel for the company.

Utilitor Opens Los Angeles House

Offices have been opened at 169 North Los Angeles St., Los Angeles, by the Midwest Utilitor Co., distributing the Utilitor tractor and farm implements. A. W. Hudson, formerly with the Killefer Mfg. Co., is manager; H. M. Haver, assistant manager. A carload of Utilitors recently arrived for distribution, display and demonstration.

Tractor Schools in Napa County, Cal.

March 8-20, inclusive, at Calistoga, and March 22-April 1, at Napa, are the periods for tractor schools in Napa County, Cal., for demonstrations and classes involving the use of $20,000 worth of tractors. Farm Advisor H. J. Baade is in charge.

MIDWEST UTILITOR FURNISHES DEPENDABLE POWER FOR SNOW PLOW.

Hades being popularly supposed to be a superheated locality it is contradictory for any trade men, recent visitors to the Pacific Coast, to declare "It's h—— they're getting back there in the frozen East." However, life has its compensations. As the employes of the Midwest Engine Co., Indianapolis, came to work one morning following a heavy snow they found the walks about the factory being cleared in a novel way. One of the products of the factory—a Utilitor—was supplying power to push a snow plow and with this device paths were being made about the neighborhood. The Utilitor was pushing aside big furrows of snow as readily as it turns the furrow of soil. This performance was illustrative of the "unusual ways in which farm tractors are used," and demonstrated that the Utilitor was well named—useful in winter as well as summer, as a tractor and as a stationary engine, for performing all of the operations in preparing a seed bed, for seeding and cultivating the crop, doing all the work economically and without hesitation.

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"Out on the coast"

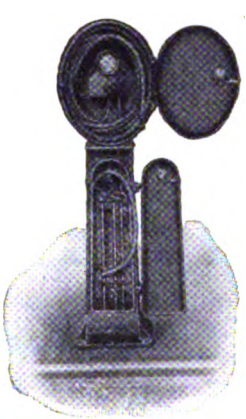
40 *Net* Profit *Every* Year

ingame, gasoline ›. Their business stations

il,020 cent 203.40 ›. 276 iever state

d enough ove, duly .t is char- perform

Cut No. 282
One-gallon pump for gasoline at the curb



Cut No. 11
For air and water at the curb

WAYNE pumps are money-makers. Strength, mechanical perfection and honest value keep them free from repairs, free to turn in profits with every turn of the handle, free to draw trade with uninterrupted service.

Wayne exclusive features embody continuous forward movement of handle, insuring speed and service; gear driven meter and indicator, insuring accuracy and satisfied trade; strong, solid construction, to prevent leakage and loss; push-button quantity stops; counterbalanced, cylindrical sliding housing; six inch clocklike discharge register; graduated computing scale and *a two-year guarantee*.

Wayne outfits are built and priced to meet every pumping need, from largest to smallest. You will like Wayne dependability and fine looks. If you are not drawing trade with curb pumps, look into Wayne Curb Pump possibilities. Write for Bulletins No. 282 MW and No. 11 MW.

Wayne

›nest Measure
' u m p s

WAYNE OIL TANK & PUMP CO.
711 Canal Street
Ft. Wayne, Indiana
Sales Offices in All Large Cities—Representatives Everywhere

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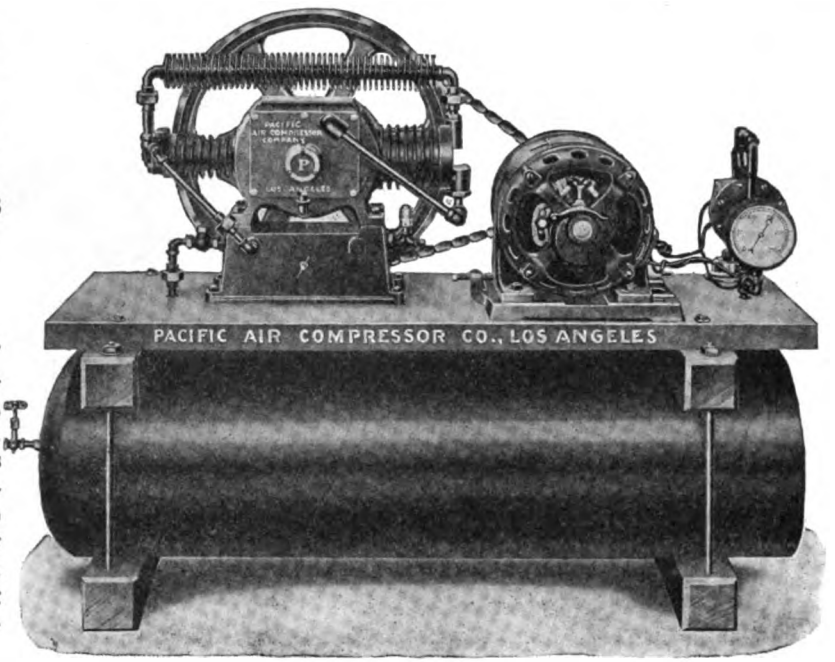
THE PACIFIC AIR COMPRESSOR

A BOON
TO
GARAGES
Filling Stations
Etc.

READY TO USE.

Attach to any ordinary light socket, turn the switch, whereupon follows regular and immediate lightning like action — decidedly unique and quiet, each part operating with watch-like precision.



The LAST WORD IN GARAGE *and* Filling Station Efficiency

Two-Stage Compressor having opposed high and low pressure cylinders. Scientifically built to the last letter—sturdy—dependable. Truly the most economical equipment you can install.

BUILT FOR EXACTNESS AND DEPENDABILITY
———FULL UNIT———
Write for Full Information.

THE PACIFIC AIR COMPRESSOR COMPANY

Manufacturers of Two-Stage Air Compressors.

917 SOUTH GRAND AVENUE **Phone 64041** **LOS ANGELES, CAL**

Comfort - Class De Luxe - Satisfaction and Service

Are all truly incorporated in our various departments —where in

Top and Body Building

Seat Covering - Painting and Metal Work

Are Executed by Experts in their Various Lines.

"Why Not Call Today and Let Us Figure With You"

TRINITY AUTO TOP COMPANY

Designers and Builders For The Most Exacting

511-515 West Ninth St., Phone 63624 Los Angeles, Cal.

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The Brake Lining that Resists Heat

RUSCO Brake Lining and Clutch Facings

AUTOMOTIVE EQUIPMENT ASSN.

They give satisfaction alike to the dealers who sell them and to the motorists who use them.

Rusco Brake Lining is woven of the finest white asbestos, reinforced with brass wire and treated with Rusco Brake Lining Compound.

Rusco Advertising, with the one year guarantee, is leading more and more motorists to Rusco Dealers, and Rusco Quality makes them steady customers.

Write our nearest office for information.

THE RUSSELL MANUFACTURING CO.

38 Factory Buildings **Established 1830** **25,000 Shuttles**

515 Russell Avenue, Middletown, Connecticut

New York, 349 Broadway
Atlanta, 60 S. Forsyth Street
Branch Offices: **Chicago, 1438 Michigan Ave.**
Detroit, 226 Jefferson Ave., E.

Western Representatives: JOHN T. ROWNTREE, Inc., Los Angeles, Cal.

San Francisco, Cal. **Seattle, Wash.** **Denver, Colo.** **Salt Lake City, Utah.**

Southwestern Representatives: WARE SALES COMPANY, Dallas, Texas

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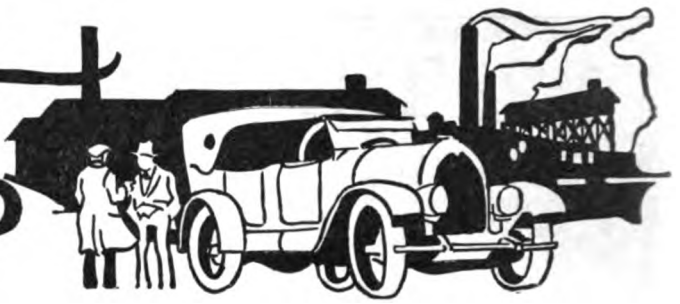
Trade Briefs & Factory Gossip



Trade News Via Detroit.

Six months ago Marysville, Mich., was a village of 500 population. Today it is the home of 1,500 workers. The Wills-Lee Automotive Corp. program calls for 2,500 by September, and 7,000 by a year hence. Hundreds of houses have been erected despite the cold, and as 17 concerns are due to locate there, John R. Lee, one of its founders, predicts a population of 30,000 within a year, and it may grow to 75,000 or 100,000 within two years. Possibly the United States Steel Corp. will locate there. Two of the latest comers are the Williams Mfg. Co., of Alliance, O., and the Lansing Mfg. Co. Both will build at once. It is rumored that Goodyear will erect a plant there to serve Detroit and Michigan.

The environment, on the St. Clair River, is most pleasing—very different than that of the usual manufacturing district. The well planned layout of the town, to balance its sections and assure a fine appearance, has been described previously. As to the Wills-Lee manufacturing plans, enough land has been reserved for its type of buildings to employ about 40,000 men, allowing each 250 cubic feet of space—a total of 150,000 square feet of working space. The buildings are expected to be available by April 1, and in the spring work will begin on three units which will have 1,250,000 square feet additional.

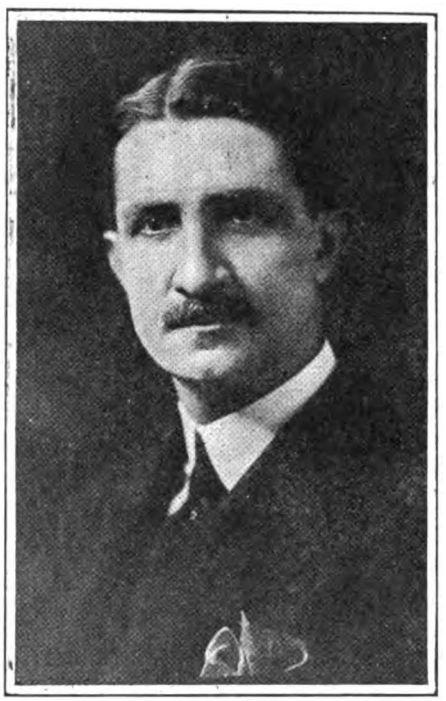
Ability of the Fisher Body Co. to serve automobile manufacturers is greatly increased by completing organizations of the National Plate Glass Co. in New York. It merges the Saginaw Plate Glass Co., Saginaw, Mich., controlled by Fisher, the Federal Plate Glass Co. of Ottawa, Ill., and the Columbus Plate Glass Co. of Blairsville, Pa. The officers are H. J. Eckenrode, president; L. P. Fisher, vice-president; W. A. Fisher, secretary; L. S. Wescott, treasurer. Headquarters are in Detroit.

The new suite of administrative offices at the General Motors Truck Co., Pontiac, now is being occupied. Vance H. Day, sales manager, is on a long trip through the Southwest, including calls on distributors and dealers in Texas and Arizona. Incidentally he hopes to recover from an attack of the recently prevalent malady. C. F. Rouze, sales promotion manager, attended the Omaha truck show, week of March 1.

Expansion continues at the Sparks-Withington Co., Jackson, manufacturers of Sparton products. A second story added to plant No. 2, adds floor space 320x50 feet. A four story building, 100x30 feet, is being erected for storage purposes. This will make available for other use that portion of the plant now given over to storing.

A. L. Lockwood, president of the Lockwood-Ash Motor Co., Jackson, manufacturers of Sterling spark plugs and marine engines, has returned from a business trip in the south.

The Detroit section of the Society of Automotive Engineers, at its February meeting, discussed non-ferrous alloys,



HORACE A. BROWN, JR.

Horace A. Brown, Jr., with the Hyatt Roller Bearing Co. 19 years, now is manager of the motor bearings division, in Detroit, and which has taken $15,000,000 worth of orders in the last 12 months. Mr. Brown, technically educated at Stevens Institute, went to the company at Harrison, N. J., in 1901. In 1911 he became chief aide to Ben G. Koether in Detroit, and afterward rose through other positions. He has seen the companys forces develop from 100 men to one of over 5,000 men, doing $20,000,000 business yearly through the motor, tractor and industrial sales divisions.

the leaders being Dr. Zay Jeffries and F. K. Bezzenberger, of the Aluminum Manufacturers, Inc., Cleveland, and H. C. Bierbaum, of the Lumen Bearing Co., Buffalo.

It is not suspected that Roy D. Chapin, president; Howard E. Siffin, vice-president, and Kenneth McKenzie, assistant to the president, all of the Hudson Motor Car Co., are to become horny handed tillers of the soil; but they have people guessing, as they have bought six farms, totaling 850 acres, between Pontiac and Auburn Heights, near Detroit; or, rather, the Calumet Land Co., of which all are officials, has bought the land. Mr. McKenzie denies the Hudson Co. has any connection with the purchase.

Edward W. Kruspe has been recalled from the Western sales managership and put in charge of the factory sales promotion department by the Standard Motor Truck Co., Detroit.

* * *

Big Year for Standard Four Tire.

F. R. Eyers, general sales manager of the Standard Four Tire Co., Keokuk, Ia., announces that as soon as equipment, long on order, is installed, the output of 450 tires daily will be increased to 1,000 casings and 1,000 tubes daily. Of 50,000 tires sold in 1919, only 263, less than 1 per cent, called for adjustment.

Distribution will be greatly enlarged and a comprehensive advertising campaign conducted. The company is in position to furnish a factory representative to help each distributor and jobber who orders in large quantities, also, it is promised that factory branches will not, later, gobble territory thus developed. To assist, however, there are two important factory warehouses, one in Los Angeles, one in Indianapolis.

* * *

Some Maibohm Figures.

By averaging price advances of automobile components for the past few months, the Maibohm Motors Co., makers of the Maibohm Six, found motors have risen in cost 22½ per cent, frames 50 per cent, bodies 35 per cent, springs 25 per cent; and axles, clutches, wheels, tires and top materials, about 35 per cent; raw materials, such as lumber, leather, etc., from 40 to 50 per cent. Steel fluctuates, but the trend is upward, and emergency needs, even of companies well stocked, mean bonuses. Choosing between quality and lack of it, Maibohm has raised the phaeton from $1395 to $1495; sedan from $2100 to $2395; chassis from $1290 to $1385. It will try to hold to these prices through the year.

* * *

Dort to Build Closed Bodies.

The Dort Motor Car Co., of Flint, Mich., has acquired the plant of the Lull Carriage Co., of Kalamazoo, as a part of its plans to build and supply its own closed bodies. The Lull factory is the beginning of an extensive factory group, where Dort coupe and sedan bodies will be manufactured.

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$4.00 $4.00

The Easiest Way to Remove Tires from Split Rims

Fits all types of cross-cut demountable rims.

Collapses a rim no matter how badly a tire may be stuck to it.

Holds rim collapsed while tire is being removed or replaced.

Forces the rim back on the tire again with the utmost ease and locks the rim in its original position; even in the case of tires which are undersized—an entirely exclusive and important feature.

PRICE $4.00

NORTON-MUNTER CO., 1603 L. C. Smith Building, SEATTLE, WASH.

THE K. P. PRODUCTS CO., Inc., 250 West 54th Street, NEW YORK, N. Y.

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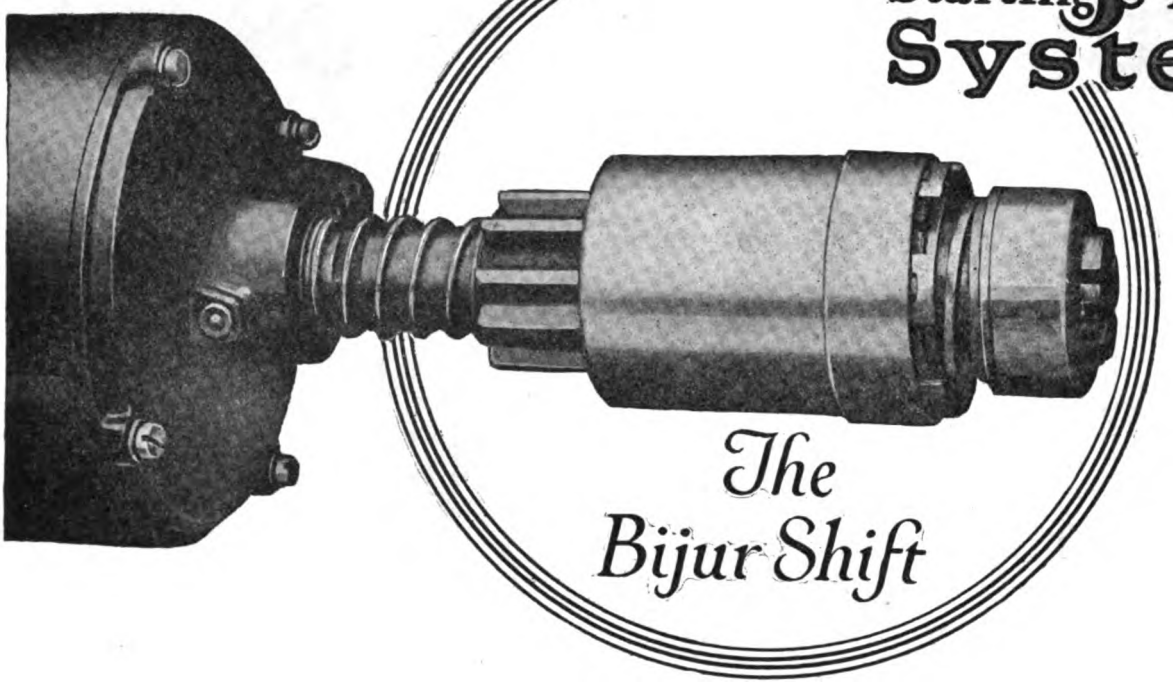
Bijur Starting & Lighting Systems



Found Only on Bijur Starting Equipment

The Bijur Shift is a Patented Device. While its function is to throw a driving pinion into mesh with the flywheel gears (as in other shifts) it has certain features which are found only in the Bijur design. The features are listed in panel and a reading of them will show you why so many leading American and foreign cars are Bijur equipped. The severe service and exacting requirements found in truck, motor boat and airplane service finds in the Bijur system the only starter that "starts 10,000 times out of 10,000, never jams, never causes backfire and flywheel breaking troubles which were at one time considered necessary starter evils.

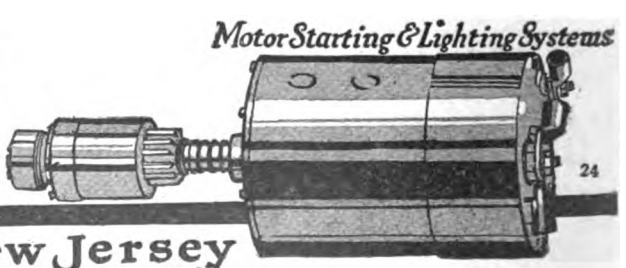
The Bijur Shift has not only reduced shift mechanism troubles to a minimum but has made possible the design of an eight-tooth pinion which provides 25 per cent more starting torque than ordinary designs.

Why the Bijur Shift Excels

Automatic Engagement
Positive Engagement
Small Motor Pinion
Backfires Harmless
No Pinion Jamming
No Driving Spring
Fully Enclosed
Not Disabled by Oiling
Shockless
Noiseless
Light Weight
Current Economy
Cold Weather Ability
Harmless to Press Starting Switch with Engine Running.
No Intermittent Ticking of Pinions Against Flywheel
Found only on Bijur Starting Systems

Bijur Motor Appliance Company

Hoboken New Jersey



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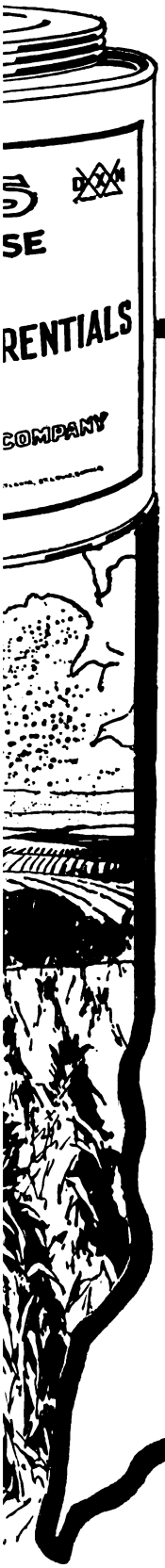

INDIANA

A Boost From the Corn Belt

We have been handling your lubricants for several years past and have found them a most satisfactory line. We also have always appreciated the splendid service you have given us when we have sent you orders.

Yours very truly,
THE GIBSON COMPANY,
Indianapolis, Indiana

And out in God's country they know how to take care of machinery.

Write for booklet 47-G

JOSEPH DIXON CRUCIBLE COMPANY
Jersey City, New Jersey
Established 1827

DIXON'S
GRAPHITE
Transmission and Differential
LUBRICANT

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Duesenberg to Incorporate.

Duesenberg Automobile & Motor Corp., it is reported, will incorporate under Ohio laws for $15,000,000 and locate in Cleveland. The rumored list of officers includes L. M. Rankin, president of the Highland Motor Corp., Kansas City; Newton Van Zandt, president of the ReVere Automobile Co., Logansport, Ind., and Otto Duesenberg, designer. It is planned to put out 1,000 cars the first year, in three price classes—$4,500, $5,500 and $6,500. All patents and services of the Duesenberg brothers are said to have been bought by the syndicate, which will erect factory units for making the Duesenberg motor, axle and lighting system.

* * *

Income-Taxed Goodyearites.

Industrial prosperity is reflected by the fact that 10,000 of the 26,000 men and women Goodyear employs in Akron are making income tax returns and will pay at least $100,000.

* * *

New Philadelphia Rubber Plant.

A new $2,000,000 factory is to be erected soon in Buffalo for the Philadelphia Rubber Co. About 400 men will be employed at the start.

* * *

Babcox Joins Akron Agency.

Edward S. Babcox has resigned as sales manager of the Rubber Products Co., Barberton, O., to become vice-president and a director of the Akron Advertising Agency Co., Akron. He was Firestone advertising manager six years, until a year ago, and there achieved national reputation. For two terms he was vice-president of the Association of National Advertisers. He also was president of the Audit Bureau of Circulations. While A. N. A. vice-president, he was chairman of several important committees, including the war advertising committee. He had much to do with such tremendous Government publicity campaigns as those on food, coal, enlistments, Liberty bonds, and so on. His advertising experience began more than 12 years ago, with Yawman & Erbe, Rochester. Then he was assistant to E. St. Elmo Lewis, at that time advertising manager for Burroughs Adding Machine Co. A year or so later Yawman & Erbe called him back as advertising manager. In 1915 he took the Firestone advertising managership. After six years there, he went to the Rubber Products Co. In his new connection he will come in contact with many well known companies which are clients of the Akron agency.

EDWARD S. BABCOX,
new vice president and a director of the Akron Advertising Agency Co.

"Norwesco" Sales Convention.

The sales convention of the Northwestern Chemical Co., Marietta, O., makers of "Norwesco" chemical automobile utilities, set the selling pace for 1920. Fred Hall, president and general manager, showed how the utilities function. A. S. Isaacs proved their superiority by laboratory tests. Se-Ment-Ol, a plumbing addition to the "chemically correct" line, was exhibited. Instructive films were screened. R. M. Tussig, general sales supervisor, electrified 'em as to the advertising campaign, etc. H. A. Fordham, secretary-treasurer, told the relation of the accounting department to salesmen's success. O. W. Morgenstein, purchasing agent and production manager, told of how he kept raw material coming in and finished goods going out, and of new equipment installed. Short talks were made by district salesmen and supervisors. Eighteen travelers, including the Canadian organization, which has offices and plant at Montreal, were there. It was a convention plus.

I. D. Cross, ten years with the company, former Western states representative, now is Western sales supervisor.

* * *

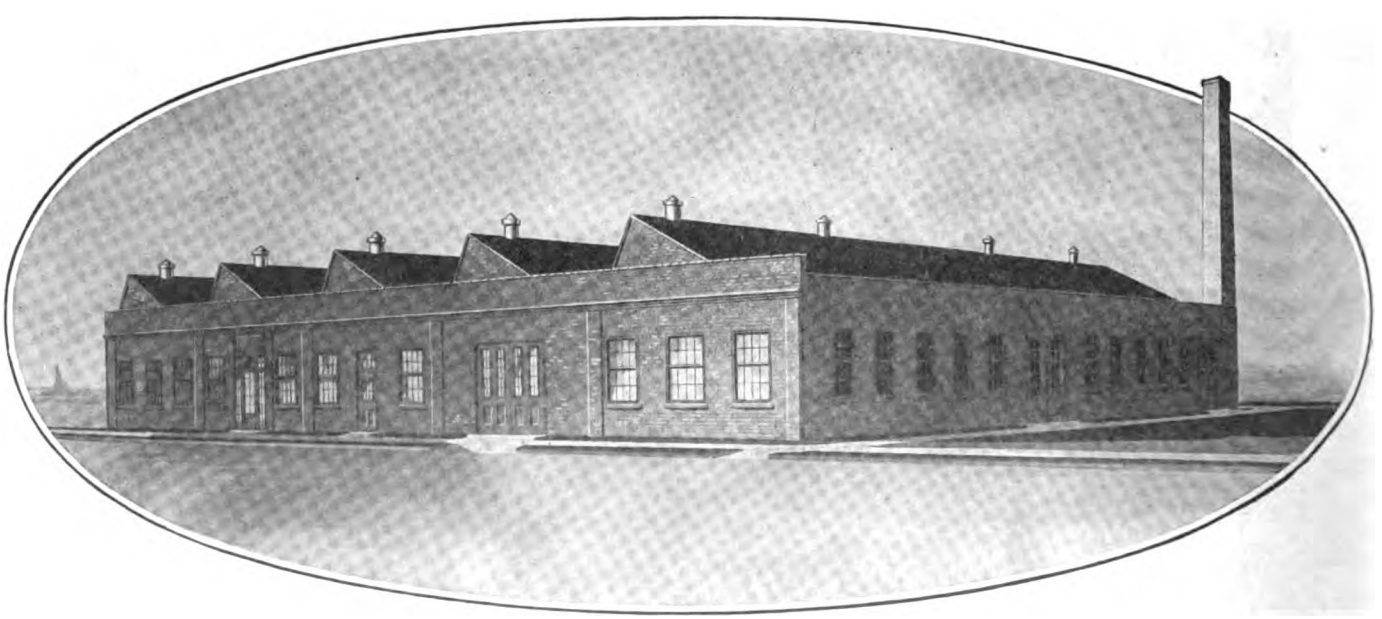
Fords Go Up $50.

March 3, an increase of $50 on all Fords was announced by the Ford Motor Co.—to take effect immediately, it was understood. No reason was stated, but it was ascribed to increased wages and other costs.

* * *

Homes for Franklin Men.

To encourage home owning by employes, a branch of a building loan association has been installed at the Franklin works in Syracuse, with George Dutcher, employment manager, in charge. Workers who own shares in the association can borrow.



NEW FACTORY BEING ERECTED FOR THE MILWAUKEE AUTO ENGINE AND SUPPLY COMPANY.
This additional building is needed as the two large ones now in use do not meet the demand for the company's timers for Fords, and Guardian bumpers for all makes of cars. The new factory will be a daylight plant of the most modern sawtooth type, with 15,000 square feet of floor space. A million Milwaukee timers, President Zimmerman believes, will be made this year. They are said to be handled by 75 per cent of automobile supply jobbers.

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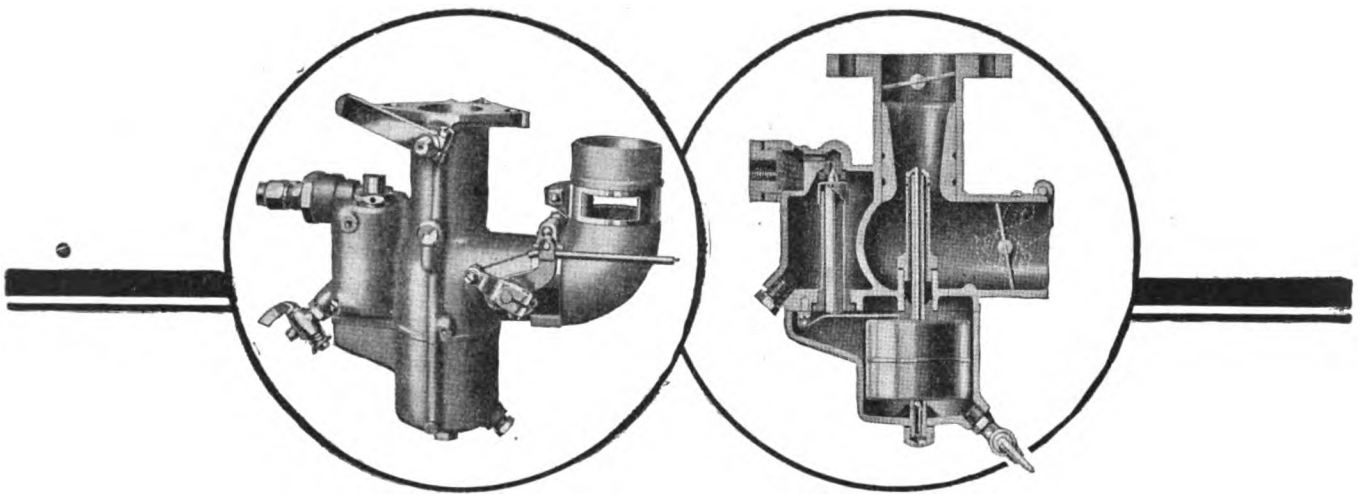
Your Truck Performs More Economically with a Rayfield Model O Carburetor



The new Rayfield Model O plain tube carburetor for trucks has two gasoline levels and two separate nozzles which provide for a thin intermediate running mixture and at the same time furnish sufficient fuel for high speed and heavy pulling. This results in unusual economy of operation.

Two adjustments, one for low speed or idling and the other for intermediate or high speed, regulate the passage of gas through the throttle shaft.

An air valve choker makes the motor start more easily and get into action quickly.

Let us make a test on your truck at your factory. The resulting performance will demonstrate the value of this new carburetor as standard equipment.

BENEKE & KROPF MANUFACTURING CO.
21st and Rockwell Streets, Chicago, Illinois

Pacific Coast Representatives:

E. A. CORNELY, INC.,
San Francisco, Cal.

E. A. FEATHERSTONE,
Los Angeles, Cal.

(20)

RAYFIELD CARBURETORS

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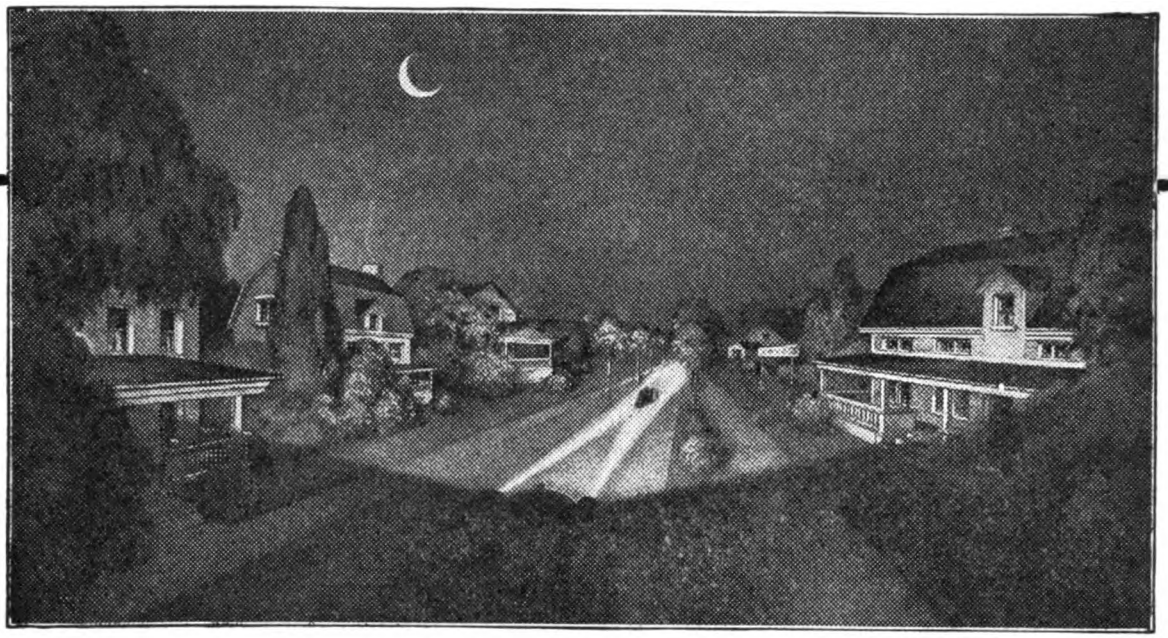


Safely and Legally Dimmed

Yet Giving a Better Driving Light

THE North Star Glare Shield throws a light for a distance of 150 to 200 feet each side of the road, almost at a right angle with the front of the car. This enables the driver to see dangerous obstacles, curves or turns of the road, to read direction sign-posts without the aid of a spot light and without stopping the car. Its penetrating power is wonderful against approaching lights or through fog.

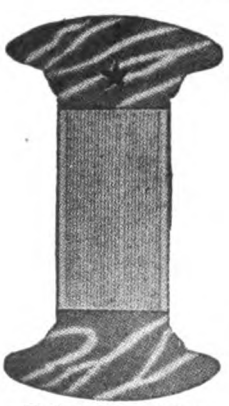
North Star Glare Shield

Gives more light and a safer light, any way you look at it—in front—behind or at the side.

Dims only that part of the light which glares in the face of an approaching driver, allowing the rays from the sides of the reflector to pass through unobstructed and without glare. **Complies with State Laws and Local Ordinances.**

Our Guarantee—The North Star Glare Shield carries our ten day guarantee; your money refunded if not entirely satisfactory.

Easily Attached—The North Star Glare Shield is made in five sizes and will fit any headlight. Nothing complicated—nothing to to get out of order. **Now being used on Police and Government cars.**



Before Attaching

Ask for descriptive circular—Try a Set—Experience real pleasure in night driving.

Distributors for California

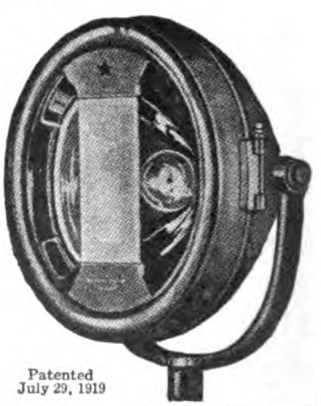
May & Underwood

824 So. Los Angeles St. :: Los Angeles, Cal.

Made by

S. & M. Manufacturing Co.

2332 So. Michigan Ave., Chicago, Ill.



Patented July 29, 1919

How It Looks When Adjusted

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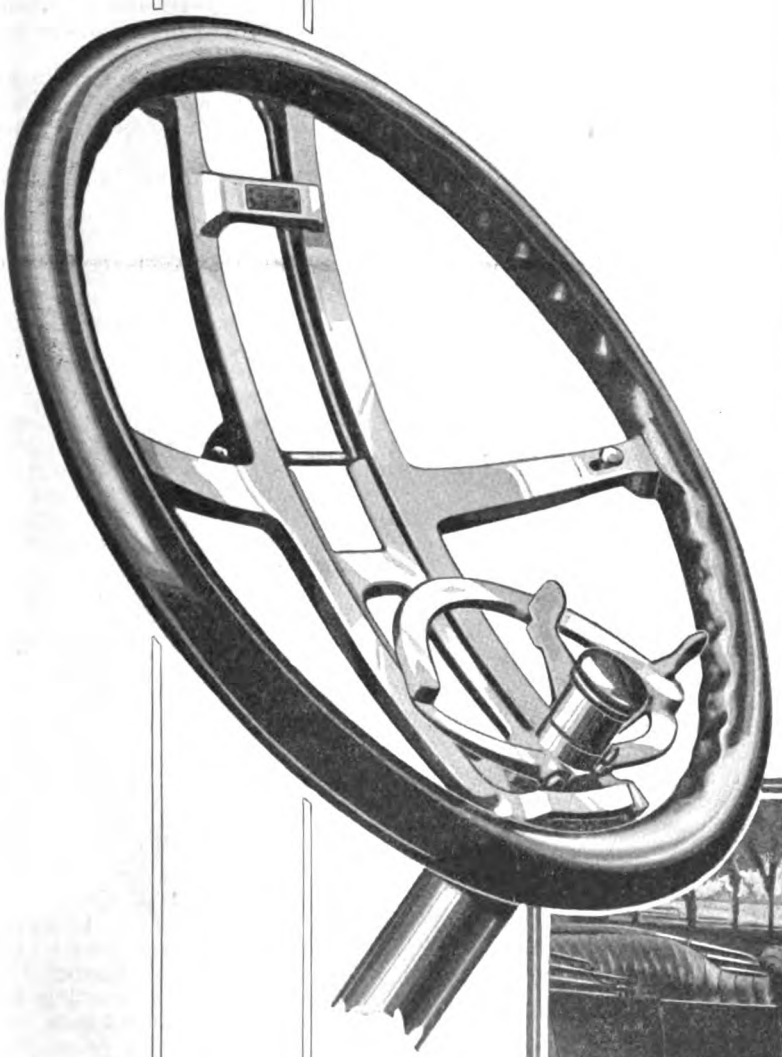
NEVILLE "MORE-ROOM" STEERING WHEEL



Push It Up Out of the Way

Motorists who consider comfort and convenience an advantage, equip their cars with Neville "More-Room" Steering Wheels.

Neville "More-Room" Steering Wheels are all their name implies. They add eight inches more room behind the steering wheel; provide comfortable, easy access to the driver's seat; protect clothes and pay for themselves in a short time.

They are quality wheels; mechanically perfect; quickly installed in any make of car and easily operated.

If your dealer hasn't them, send us his name and we'll see that you are supplied. Write for booklet.

To Dealers: Neville "More-Room" Steering Wheels are sold to dealers through jobbers of auto accessories.

The Neville Steering Wheel & Mfg. Co.

136 Beaubien St. Detroit, Michigan

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Buick Spending $10,000,000.

H. H. Bassett, recently elected president of the Buick Motor Co., tells how $10,000,000 will be expended for new buildings and equipment this year. The program is a sequence of forward steps, of which Mr. Bassett's promotion is one of the most important. Of the total to be spent, about $7,500,000 will be for new buildings and equipment at Flint, Mich., the remainder for a new assembly plant at St. Louis. These mean increasing the daily production to 750 cars—200 of them at St. Louis, where bodies will be built for chassis shipped there for assembly.

Ideal conditions for workers are part of the plan; the ambition, to make the organization one of the largest automobile plants in the world, with employes' co-operation a strong factor. Thousands are buying stock through the General Motors plan.

President Bassett has won his way to the top. He was many years with the Weston-Mott Co. axle makers. When the Buick Co. took over the other, Mr. Bassett became assistant general manager. Then he was general manager; finally, president. For a year or more he has been the real Buick head.

* * *

LEONIDE BARRERE,
who soon starts on a three-year journey of export expansion for the Haynes Automobile Co. He will visit important cities in Europe, Asia, Africa, India and South America.

See Bright Future for Denby.

Affairs of the Denby Motor Truck Co., of Detroit, under management of a new executive committee, have a bright future. A plan for extending creditor's claims has been proposed and accepted by practically all of the creditors and Detroit banks are said to be very favorably disposed toward extending financial accommodation. Orders are coming in very satisfactory volume.

One important fundamental fact is that the Denby plant and equipment is free of any sort of debt. Of the total indebtedness of $675,000 to creditors, all but $2,000 is covered by acceptances of the plan advanced by the executive committee, made up of some of the leading parts makers. This plan calls for a series of notes running four, six, eight and ten months, respectively. They will, respectively, represent 20, 20, 20 and 40 per cent of the claims against the company.

* * *

Southern Trade Men to Meet.

March 17-18, at Lake Charles, La., the Louisiana-Mississippi Automotive Trade Association will hold a convention, in which informal round table discussions will be a feature. Men of national prominence in the trade will speak. As to entertainment, something even better than the "Wampus car" of last year at Jackson is promised.

* * *

Pennsylvania Rubber Dividend.

Directors of the Pennsylvania Rubber Co., Jeanette, Pa., recently declared the regularly quarterly dividend of 1¾ per cent on preferred stock and 1½ per cent on common.

N. C. R. 100 Point Club Meets.

The National Cash Register Co., Dayton, O., has the N. C. R. Hundred Point Club. Eligibility involves securing 100 per cent or more of an alloted annual quota of sales. Recently there was held the first strictly hundred point convention since before the country entered the war. It lasted a week. The 1919 membership was 440—almost twice as many as in any other year.

"Get the big idea," was the purpose of the convention; the idea being, as General Sales Manager C. E. Steffey put it, for each to become a bigger, broader power for good to merchants in his community. The members were shown how, partly by an unusual feature—viz., pictures, pageants and playlets, with a minimum of talk except natural, lively discussion. Factory methods and improvements were also shown. On the last morning business was dropped while a huge tablet, bearing the names of 1069 N. C. R. men who served in the war, and of whom 16 made the supreme sacrifice, was unveiled.

"Do your best. If in doubt, simply do right and you will be right," was President John H. Patterson's message to the convention. "Appreciative but not satisfied," was the slogan the convention adopted. First Vice-President J. H. Barringer said it defined the N. C. R. spirit.

N. C. R. managers from Europe and Latin America were presented and reported an excellent outlook in the foreign fields this year.

The cash register of today is a far cry from the first crude one, made 37 years ago. An invention department devotes its entire time to improvement. A brand new model was put on the market in January, 1920. Added to many other cash register functions, it prints a receipt showing an itemized account, and the total.

* * *

Heads Pierce Eastern Sales.

A. L. Kimball, former chief engineer of the Fulton Motor Truck Co., of Farmingdale, Long Island, has joined the Pierce Governor Co., of Anderson, Ind., as sales engineer. He will have charge of the territory east of Indiana. Kimball has been connected at various times with the Hudson, Chalmers and Dodge factory as experimental engineer.

* * *

Puritan Purchases A. B. C. Co.

The Puritan Machine Co., Lafayette Boulevard and Tenth St., Detroit, has purchased the A. B. C. Starter Co., manufacturers of electric starting and lighting equipment for Ford cars. All stock, tools, dies, jigs, blue prints, etc., covering A. B. C. equipment has been moved to the Puritan plant, from which point service parts and repairs to equipment will be handled.

* * *

Shuert Leaves Motor Truck Corp.

E. G. Shuert has resigned as general manager of the Motor Truck Corp., Detroit, owing to ill health, and will take a long vacation.

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ADDITIONAL CLASSIFIED.

Rain-Sun Vision Shield
Trade Mark Pat. Applied for

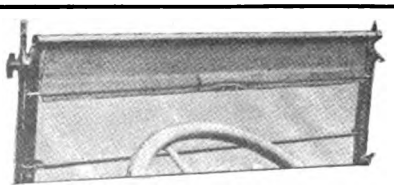
MAKES DRIVING UNDER ALL CLIMATIC CONDITIONS A

"REAL PLEASURE"

MADE OF GLASS IN COLORS
—ALSO FABRICS—

Dealers be Wise—Get Busy and Write us for Information

Rain-Sun Vision Shield Co.
511 West 10th St., Los Angeles, Cal.
Phones 14008



FREED AT LAST FROM ANNOYING EYE STRAIN
Motoring Made a Real Pleasure by the Installation of a
"COMFY WINDSHIELD SHADE"
——Price $15.00——
Practical and Ornamental
QUICKLY ATTACHED
Dealers Write for Attractive Proposition.
COMFY AUTO SHADE CO.
1716 South Main St., Los Angeles

GILL
The Perfect One Piece Piston Ring

"Here Is the Piston Ring I Recommend"

The garage man says this with an accent of pride when he holds out a Gill Piston Ring towards the customer. He knows the Gill Ring only has to be shown to convince that it is the "perfect one piece piston ring." There is no argument necessary, one look at the double step interlocking joint and anyone with even the slightest mechanical knowledge can see that it is head and shoulders above any other ring on the market.

Just think for a moment. The Gill Piston Ring allows an expansion of from $1/8$" to $3/16$" without any loss of compression and at the same time has all the advantages of a one piece ring. Made from single piece castings of the finest gray iron and machined to absolute accuracy. The easiest ring on the market to install, the easiest ring on the market to sell.

Send for the new Gill Piston Ring Size Directory, complete, convenient, and full of just the information you need. It is free to the trade.

Dealers—Ask your jobbers about them
Jobbers—Write to us for information

The Gill Manufacturing Company
8301 South Chicago Ave., Chicago, Illinois

Sole Foreign Agents:
AUTOMOTIVE PRODUCTS CORPORATION
Woolworth Building, New York, N. Y.

Pacific Coast Branches:

Gill Piston Ring & Sales Co.
1522 S. Grand Ave.,
Los Angeles, Cal.

Gill Piston Ring Co.
803 Van Ness Ave.,
San Francisco, Cal.

Gill Piston Ring Co.
723 E. Pike St., Seattle, Wash.

Gill Piston Ring Co.
409 Burnside St. West, Portland, Ore.

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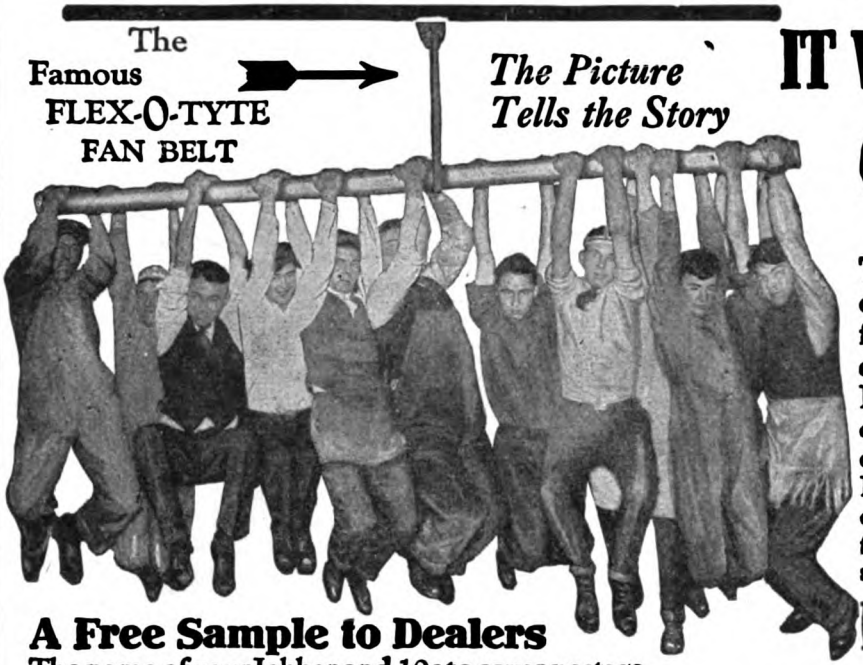
THE WEIGHT WAS OVER A TON

The Famous FLEX-O-TYTE FAN BELT

The Picture Tells the Story



IT WAS THE FAMOUS FLEX-O-TYTE FAN BELT

The strongest, most durable, longest lasting and most satisfactory fan belt made. This is not a mere claim. The famous FLEX-O-TYTE Belt speaks for itself. Built of special Rubber Coated Fabric—wrapped cured. Tougher than leather. OIL, HEAT and WATER-PROOF. No raw edges like the ordinary vulcanized fabric belt, consequently no fabric separation.

A Free Sample to Dealers

The name of your Jobber and 10c to cover postage and packing brings sample belt for late Ford model. Also 32-page Catalog. No obligation on your part.

Dealers—Get Sample

A. J. STEPHENS RUBBER COMPANY

1413 CHESTNUT STREET KANSAS CITY, MISSOURI

Automotive Products Corporation

FRANK C. KIP, President

Manufacturers' Sales Representative

San Francisco, Calif.
989-999 Geary Street

REPRESENTING

National Wire Wheel Corporation

Empire Rubber and Tire Company

Geo. D. Bailey & Co. Shafer Roller Bearings

"Float-a-Ford" Shock Absorber

Staff Bros. Co. Wrenches Brookins Mfg. Co.

Dealers' Correspondence Invited.

Will exhibit at Pacific Coast Equipment Exposition at Municipal Auditorium, San Francisco, March 30th to April 4th, Space Number 131

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STORM

MOTOR REPAIR EQUIPMENT

Makes Your Garage an All 'Round Repair Shop

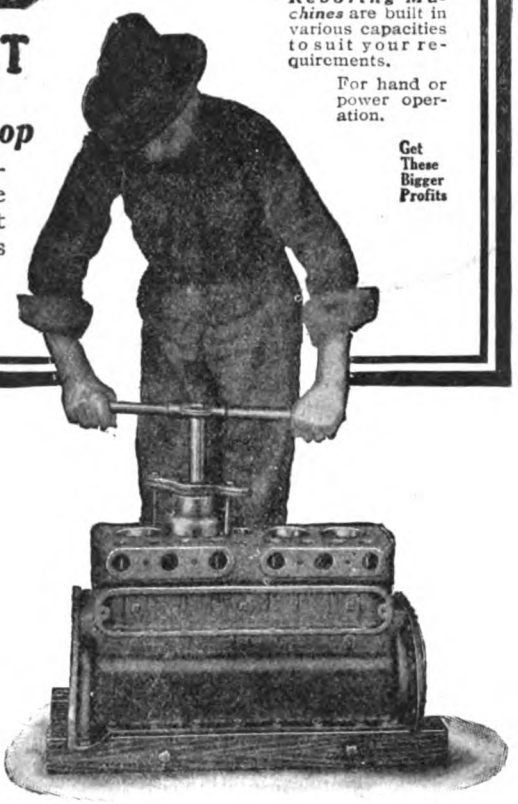
Equips you to handle the most profitable class of work—overhauling and rebuilding. Storm Tools are practical and can be operated by inexperienced men. They soon pay for their cost in doubling the efficiency and output of your shop. Write us for complete information.

STORM MFG. CO. Dept. S **Minneapolis, Minn.**

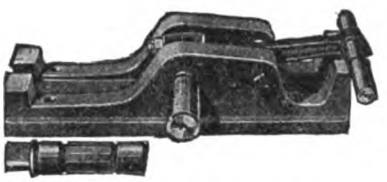
STORM Standard Reboring Machines are built in various capacities to suit your requirements.

For hand or power operation.

Get These Bigger Profits



STORM Main Bearing Babbitting and Boring Tool makes a new, perfect bearing exactly the same as the original and in the exact original position. Two sizes—Ford and Fordson Motor.



STORM Connecting Rod Bearing Reamer, Jig and Straightening Gauge accurately and quickly fits and cleans connecting rod bearings. Solves labor problem—no experience necessary to operate.

For **WINDSHIELDS**

For **CAR WINDOWS**

ULTRA GLASS

A GLASS THAT IS SAFE

For **WIND DEFLECTORS**

For **AUTO TOPS**

A Beautifully Clear Protective Glass

That Cannot Shatter Even When Hit With A Hammer

— THAT MEANS SAFETY —

For It Takes the Treachery Out of Glass

"Suffering From Severe Cuts" — "Injured By Flying Glass"
Are Familiar News Items Associated With Accidents

ULTRA GLASS Banishes Every Possibility of Injury and Disfigurement

Protect Yourself and Your Family with a Glass that's Safe

WESTERN AGENCIES COMPANY

Pacific Coast Distributors

LOS ANGELES
125 East Ninth St.

SEATTLE

SAN FRANCISCO
285 Minna Street

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WHY MOTORS LEAK

The cylinder walls of all gasoline motors warp from expansion and contraction and also wear. As the piston ring cannot conform to the warped places, the explosion and other forces destroy the seal of oil as it passes over these places; the gas escapes and oil passes up.

HOW TO PREVENT IT

"NO-LEAK-O" OIL SEALING Piston Rings have a 45-degree angle groove full of oil, which pulsates as the piston moves up and down and KEEPS a film of oil between the ring and the cylinder wall REGARDLESS of warped or worn places on the cylinder wall. The motor maintains maximum power.

They restore power in old motors without re-boring. ON MARKET 5 YEARS. 1,000,000 A MONTH. Popular through service. PRICE 50c UP.

If your jobber cannot supply you order direct.

NO-LEAK-O PISTON RING CO.

BALTIMORE, MD.

Beware Attempted Imitations, "No-Leak-O" Patented. Rings carried in stock by Lewis Bros., Montreal.

Amazon Rubber Co.'s 1920 Plans.

Important additions to its executive staff, proposed purchase of a larger site, and more than 300 per cent increase in capital are announced by the Amazon Rubber Co., Akron, O. The new officers are: President, Dr. E. E. Quirk; vice-president, Frank H. Burch; treasurer, Walter Herberich; secretary, George Hupp, who also is general manager. Directors, with Messrs. Quirk, Burch and Hupp, are Louis Schott, who started the company in 1916; Gus Burkhardt, Albert Kroehle, W. A. Boesche, M. D. Kuhlke and J. A. Berke. Option is held on a site in East Akron, with excellent railroad facilities, and completion of the new plant during the year is expected. Production is being increased immediately from 250 to 500 tires daily, and increases will be made as soon as equipment is available. The capital stock increase is from $400,000 to $1,500,000, only $200,000 of which is to be sold now, at par, $100.

Dr. Quirk, the president, several years ago left a large dental practice to care for important financial affairs; is an officer in several leading Akron business organizations and is an enthusiastic club man, having organized the widely known Akron City Club.

* * *

Rubber Products Co. Election.

Changes in the Rubber Products Co., Barberton, O.; Treasurer, director, and director of sales, J. W. Blaser, a leading business man of the Akron district; sales manager, W. S. Dellett, recently Northwestern manager, succeeding E. S. Babcox, resigned; eastern district manager, H. P. Harding, well known in the East. Large building additions and the new personnel presage a sales increase of 200 per cent over last year.

January Dort Sales Double.

In Detroit, where everybody knows what's what in automobiles, Dort sales in January doubled those of January, 1919, and the February showing was a triple one. Reason given—economy due to simple construction. The average Detroit owner of a Dort needs service only once in 20 months.

Work on the huge new Dort plant in Flint is on. The expenditure will be $5,000,000. The site is 77 acres. The first building will be ready for occupancy early in 1921. Meantime, to meet the demand for closed cars, the company is operating the Dull Carriage Co. plant at Kalamazoo. It is being additionally equipped and enlarged. Present production capacity will be 150 to 200 bodies a day.

* * *

International India Rubber Corp.

The directors of the International India Rubber Corp., South Bend., Ind., on receipt of satisfactory reports by a New York firm of accountants and a Milwaukee appraisal company, directed cash distribution of the entire accumulated dividends on outstanding preferred stock for 1917 and 1918, and of the regular 7 per cent dividend on the same for 1919; also of 6 per cent on the common. Officers elected were: President and treasurer, George W. Odell; vice-president, P. E. Studebaker; secretary, B. F. Wulff; these forming the directorate, with C. W. Truxell and J. W. Ridge.

* * *

Waite Resigns from Reo.

F. L. Waite has resigned as Reo advertising manager. F. H. Akers, sales manager, adds supervision of this to his other work. Advertising has been merged with sales promotion, with Walter K. Towers in direct charge as sales promotion manager.

Kelly-Springfield Caterpillar Tires.

The way the Kelly-Springfield caterpillar tires, 40x12, are put on the rim on a 250-ton hydraulic press in the Pittsburgh service station is shown in the February issue of the Kant Slip, the company's beautifully printed house organ. There is also pictured the Whitney rebound instrument, used to test resiliency—as to which, it is claimed, Kelly caterpillars will outtest any other makes of truck tires of the standard type by from 10 to 35 points. The book has what newspapermen call a double-truck spread of illustrations of "jitneys in odd corners of the world."

* * *

New McClaren Sales Policy.

There will be no branches of the McClaren Rubber Co., of Charlotte, N. C. Well known and successful distributors will wholesale the product and give dealers exclusive selling rights. The company's new type of contract has many points of advantage for the tire merchant. Production is satisfactory, and the way the tire is taking is so favorable that the veteran tire men in the company plan for greatly increased output next year.

* * *

Sackett Now Studebaker Dealer.

R. C. Sackett, after being with the Studebaker Corp. five years, has resigned as advertising manager to go into partnership as a Studebaker dealer in Cincinnati.

* * *

Goodyear Service Pin Valued.

Money-making co-operation makes the investments of the Service Pin Association, composed of nearly 3,000 Goodyear employes, very large. Much pride is taken in the 5, 10, 15 and 20 year pins. It is one of the most practicable plans to stimulate long service.

SCORED CYLINDERS

Repaired by **"Lawrence Patent Process"** with Silver-Nickel Alloy, fused electrically. No warping or enlarging of bore. Same piston and rings fit. All work absolutely guaranteed. Reshipped 24 hours after received. Endorsed by all manufacturers. Also burnt and oil scores repaired. Plants in all principal cities.

Established 1862

L. LAWRENCE & CO.

SAN FRANCISCO, 116 Hyde St. — LOS ANGELES, 1030 South Grand Ave.

All infringers will be prosecuted to full extent of the law.

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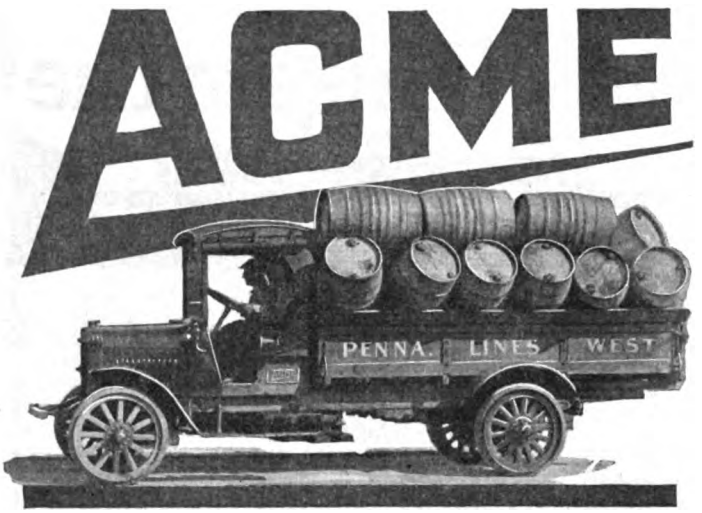
MOTORISTS are notoriously willing to try anything once—especially tires. The fact that thousands of motorists have stuck to Kelly-Springfields ever since they owned their first cars is about the strongest endorsement a tire could have.



A New Basis of Profitable Truck Selling

When 85% of the owners of a certain truck say they bought that truck because of several pronounced features, the trade is given a definite basis upon which to figure sales and profits. This is true in the case of the Acme—you know in advance the quality of the truck you are selling and the kind of service it will render.

Over 850 out of every 1,000 owners of Acme Trucks, investigation shows, bought because of Acme Proved Units and Acme Proved Construction—and the number of owners who will add Acmes to their fleets show an amazingly high percentage.

The industry's leading units as selected and assembled by Acme engineers give positive assurance of complete satisfaction in service and performance. Over 990 out of every 1,000 owners of Acmes in service say it is superior to any other truck because of this proved construction.

Acme dealers have known standards upon which to build an increasing and profitable truck business. They have facts which make the Acme franchise one of the most desirable of the times. Write for details on our proposition. Some undeveloped territory still awaits the right dealer.

Acme Trucks are Built in 1, 1½, 2, 3½ and 5-Ton Models

Also Acme built bodies, enabling us to ship trucks ready for service.

Acme Motor Truck Company

213 Mitchell Street **Cadillac, Mich.**

The Seal of Dependable Performance

ACME THE TRUCK OF PROVED UNITS

Trade Mark Registered in U. S. and Foreign Countries

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New Things in the Accessories Field

GUIDOMETER SOON ON MARKET.

Capitalized for $250,000, the Guidometer Co., of Spokane, Wash., has perfected its organization and is located at 717 Old National Bank Bldg. The Guidometer in its present form has been perfected by Foster Russell of the Symons-Russell Aviation Co. It will be assembled and distributed from Spokane. It is a new device to aid the tourist, being attached to the steering rod directly before the driver's eye, with a small light for night driving. It is connected with the speedometer chain and unfolds specific directions on a printed tape as the automobile travels. Two inches on the tape, the amount always before the driver's eye, represents one mile.

On the tape appear the exact mileage, the turns, crossroads, bridges, grades, railroad crossings, danger points and, in the cities, the service stations and hotels. A code of signals is used in addition to the actual lettering and the driver can tell at any moment whether he is on the right road. More than 3,000 miles of road has been mapped in the Pacific Northwest.

NEW WINGARD MANAGEMENT.

The Wingard Mfg. Co., 222 West Ninth St., Los Angeles, maker of the Wingard, for windshields, is under new management, and the increasing demand, in California and by mail from all parts of the East, demands the early erection of a large factory. Graham B. Hunter is president; E. L. Bridgman, vice-president; M. B. Bridgman, secretary and treasurer. E. L. Bridgman, prior to his present connection, was manager of the Packard advertising department in Detroit, from where he entered the ranks of the French army and got into the thick of the fray. The Wingard, attached at each side of the windshield, is not squared at the bottom but is so cut that it follows the lines of the car—a streamline effect. It is easily swung out of the way when side curtains are needed, does not obstruct view and adds to the car's appearance.

FAIRBANKS TAKES ON NEW LINES.

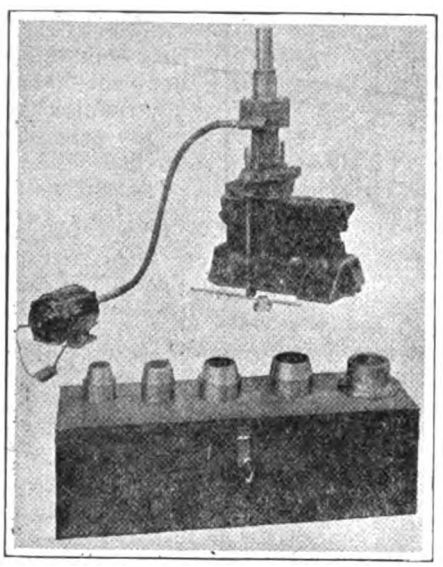
A. G. McMillan, general sales manager of the automobile and service station equipment division of the Fairbanks Co., New York, advises that the latest additions to its lines are the products of the Duplex Rim Device Co., T. & T. Tire Dresser and F-B Electric & Mfg. Co. The entire output of all three has been taken over.

REPAIR SHOP PROFIT MAKERS.

Profits for the repair shop in rebuilding motors, is the aim of devices by the Storm Mfg. Co., Minneapolis. The line includes reboring machines, Ford and Fordson main bearing rebabbitting and boring tools, and other shop equipment. There is a vertical power reboring machine, recently perfected by Mr. Storm, which is claimed to be the most practical and efficient made. Each Storm machine is in a permanent ...e, divided into compartments. The cylinder reboring machines are equipped for hand operation but admirably adapted for use with low speed drill press or other source of power. This, the connecting rod bearing reamer, valve port renewing tool, piston vise and other things are all illustrated in the new catalog.

A RE-BORING PROFIT MAKER.

The biggest little re-boring machine made, it is called by the Hughson-Bacon Co., makers of tools of quality, 233 Broadway, Oakland, Cal., who describe it as a business builder, low in cost, a profit maker that pays for itself. It will re-bore any type cylinders from 2½ to 5 1-16 inch size, accurately. Weight of machine to be lifted



HUGHSON-BACON RE-BORER.

is less than 60 pounds. A full line of oversize pistons is available. The cutting tools are maintained at the company's expense and the machine is guaranteed two years. Price, with full equipment, is $295 f. o. b. Oakland.

LOCKS 'EM TO RADIATOR.

The Moto Meter lock locks the moto meter or radiator cap to the radiator, preventing theft. It is the product of a year's study, and is endorsed by leading automobile manufacturers, insurance companies and police authorities. It is easily applied to any machine. Unscrew nut off stem of moto meter, insert stem through hole in base of lock, then through hole in top of radiator, and screw the nut back on. To fasten radiator cap, screw the cap on medium tight, then loosen slightly, drill a 3-16 inch hole through front of cap so hole will go through filler nipple as well as cap; adjust the loop to fit hole in cap and lock and slide the loop into place. Locking is by Yale type of key. The maker is Flower Mfg. Co., 1926½ Mariposa St., Fresno, Cal. Price, $3.75.

SIGNAL AND MIRROR COMBINED.

At the San Francisco automotive equipment show, March 30-April 4, there will be exhibited the Troup Auto Side Signal Co.'s side signal and rear view mirror. The factory, service and sales room is at 3038 South Main St., Los Angeles. Building signals for vehicles is the company's business, and it believes it has the right one for automobiles, to indicate intention of turning in the direction in which the signal is exposed—instead of holding out the hand, just drop the signal to view by pressing a lever; when the turn is completed press the lever and conceal the signal in its weatherproof cabinet or case, 11x3 inches, with mirror full length, housing seven nickel blades which fold and unfold in fan formation. Red inserts in these reflect red to front or rear, with the aid of lights from cars approaching from front or rear. Operation is by piano wire from lever on signal axle to lever fastened on steering post.

SEMI-FINISHED PISTONS.

Jahns Quality oversize pistons, ready to finish for any motor, are manufactured by W. Jahns, 2662-64 Lacy St., Los Angeles. The pin hole is finished, ring grooves also, head finished and centered, meeting requirements of machine shops. Mr. Jahns, a Los Angeles pioneer in cylinder grinding and making oversize pistons, recently erected a factory of 500-per-day capacity in rough and semi-finished pistons and ring stock castings. He makes no finished articles. He recently discontinued cylinder grinding. He has over 500 metal patterns, and 20,000 pistons in stock at all times; ring stock castings, all sizes in diameter and approximately 7½ inches long by ¼ inch wall.

CAMERON AIR-COOLED ENGINES

The Cameron Motors Corp. originally planned to build its own passenger cars and motor trucks. As a result of the great interest in its present type of air-cooled engines for passenger cars, trucks, tractors and airplanes, it will specialize on these and to license their manufacture as well. One automobile manufacturer seeking shop rights is producing 50,000 cars per year, and the Cameron sees a prospect of 25 per cent of all manufacturers using the principle. One reason given is that the Cameron engine has 302 fewer parts than the ordinary water cooled one, and 125 fewer than other air cooled engines.

SHOW BROWN RUBBING MACHINE.

C. H. La France, general manager of the Franklin Products, Inc., a subsidiary of the Franklin Automobile Co., Syracuse, and which manufactures the Brown rubbing machine, recently demonstrated in Detroit the way the machine rubs on rough stuff and varnish at some large Detroit plants. It is believed by many who have seen it that this will revolutionize the rubbing operation on automobile bodies and increase production thereof from 50 to 100 per cent.

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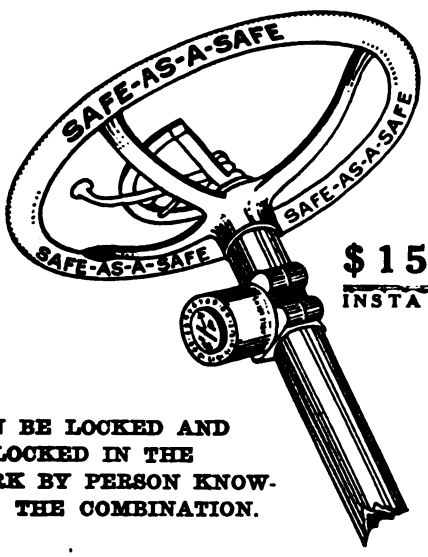
ABLE COMBINATION AUTO LOCKS

UNDERWRITERS LABORATORIES INSPECTED

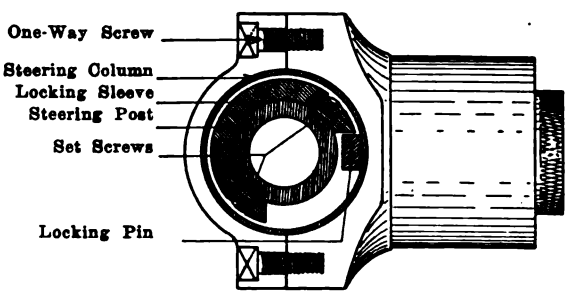


$15.00 INSTALLED

CAN BE LOCKED AND UNLOCKED IN THE DARK BY PERSON KNOWING THE COMBINATION.

Positively Prevents Driving or Towing of Car While Locked

COMPLIES WITH ALL CITY AND STATE TRAFFIC LAWS



Sectional View of Lock Installed

DISTRIBUTORS

SAN FRANCISCO — CHAS. P. BOONE & CO. 503 Market St.

OAKLAND — J. W. BURGE 1912 Telegraph Ave.

SALT LAKE CITY — CHAS. A. NICHOLS 373 South Main St.

SACRAMENTO — AFFLECK & COLEMAN 1209 J St.

NEW YORK — BURGLAR PROOF AUTO LOCK & CAR SPEC. CO. 108 East 83rd St.

ST. PAUL — McCANN & HARRISON 650 Grand Ave.

POCATELLO, IDAHO — ERICSON & ORR Pocatello

MADE BY

ABLE MFG. CO., Inc.

731 Folsom Street :: San Francisco

Agents Wanted

Write for Descriptive Literature

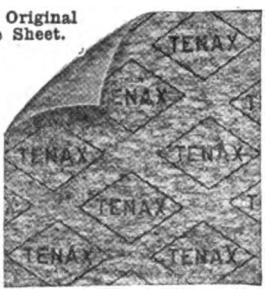
In Your Own Shop

FOR

Increased Efficiency Lower Costs

Use TRADE TENAX MARK

The Original Blue Sheet.



Get this wonderful Compressed Asbestos Sheet Packing. TENAX is an ideal packing for any joint—permanent whether subjected to gas engine exhaust, cylinder explosions, acid, alkali, superheated steam or any other active agent. Can't burn, rot, or squeeze out and needs no following up. Help your workmen to save time and turn out permanent repairs—get TENAX for their use. Preferred by the finest engineers and sold by the name "TENAX" for twenty years. Now in daily use in thousands of shops. Economical, too. Comes in sheets 50x50 inches. Thickness 1/32 to 1/8 inch, inclusive. Made also in 1/64 inch thickness, black graphited sheet only.

Pack with TENAX and forget the joint forever.

Use Adpasco Treated Gasket Paper

ADPASCO TREATED GASKET PAPER

It is Waterproof—Try it.

A specially treated paper that every shop needs right now—firm, waterproof and oil proof, made for every use, except in contact with extreme heat. ADPASCO Treated Gasket Paper is efficient and dependable. Supplies a need—means a saving. Have ADPASCO handy for your mechanics to use—save your TENAX for contact with extreme heat. ADPASCO fills the gap and because of its fine quality and reasonable price has found its way along with TENAX into thousands of shops. Sheets 36x40 inches, weight approximately 12 oz. per sheet. Get samples and prices NOW.

Both Mean A Saving For You

Let these two high-grade products help you in your own shop, to make repairs permanent and thoroughly satisfactory and to reduce your costs in time and material. Both TENAX and ADPASCO will make money for you.

Investigate Today

SEE YOUR JOBBER

or write us, using the Coupon. Get prices and small samples. Judge for yourself, or order at once a few sheets of each on trial.

ADVANCE PACKING & SUPPLY CO.

58 E. Lake St., Chicago, Ill.

Pacific Coast Representatives ALLIED INDUSTRIES, INC., 283 Minna St., San Francisco, Cal.; 340 Azusa St., Los Angeles, Cal.; 1252 First Ave., So. Seattle, Wash.

Use This Coupon!

ADVANCE PACKING & SUPPLY CO., 58 E. Lake St., Chicago, Ill.

Gentlemen—Please send us prices, samples and description of .....TENAX Compressed Asbestos Packing. .....Adpasco Treated Gasket Paper.

Name.....

Address.....

Am listed as.....jobber.....dealer

My Jobber is.....

Address .....

(Please fill this in.)

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HAVE NEW UNIVERSAL BATTERY.

The Stewart Battery Co., Los Angeles, has a new model of the Universal storage batteries, for which it is state distributor. It carries parts for all makes of batteries and is Coast distributor for Multiple Cant Leak piston rings, guaranteed to eliminate oil pumping.

A high class battery for high class merchants, is its slogan. It is opening elaborate new quarters at 3038-40 South Main St. and has pamphlets and all information ready to mail, and is prepared for orders. Wilbern Bush is president; C. C. Bush, treasurer; M. L. Stewart, vice-president and secretary. During 12 years Mr. Stewart was chief of the electrical department of the El Paso & Southwestern railway. President Bush was formerly a hardware merchant in El Paso.

SPOUT SWINGS UP AND DOWN.

"A thousand compliments from delighted customers," is said to be the answer of the man who sells the Swing-Spout oil measure, which does away with the funnel, expedites service and eliminates

SWING-SPOUT OIL MEASURE.

any danger of spilled oil. It is made by the Swing-Spout Measure Co., 404 North Los Angeles St., Los Angeles and is carried by jobbers. It is of steel, copper plated. At the upper edge the inward curve prevents spilling over the top, also strengthening the measure. It has an automatic valve, to get any desired flow. The valve is brass. All measures are inspected and bear the State seal, an added guarantee to the buyer. Cheerful replacement is made for any imperfections. Prices: Pint, $2.25; quart, $2.50; ½ gallon, $3; gallon, $3.50. All but the gallon size are packed 12 in a carton; the gallon size, six in carton.

NO-CHAT INSERTS FOR FORD CARS.

No-Chat Ford Transmission Inserts are designed to eliminate the chatter-grab-jerk of the transmission linings against the Ford transmission drum. These Inserts form a cushion between the metal band and the solid transmission drum, making it impossible for the bands to grab.

When installed, their peculiar curvature forms three oil pockets which fill with oil when the car is in motion and this oil is constantly fed between the fabric lining and the transmission drum, preventing the fabric lining from burning out and giving it longer life and smooth even action.

According to the makers, the F. L. Huber Co., of 219 N. Channing Ave., St. Louis, Mo., installing a set of No-Chat Inserts will give many more thousands of miles' travel from old transmission linings.

The No-Chat-equipped Ford will always start without jerking, it is said and stop in the same way. They sell at $1.50 a set.

ELIMINATES CRAWLING UNDER TO TEST FORD OIL LEVEL.

The Testcock is an automatic device for testing the oil level in the crankcase of the Ford car without getting under. It is simple, dependable and enables the car owner to tell in a moment whether he has enough oil or not.

It is operated by a rod with a ring on the end, which extends through the splash pan. To test the oil, you simply pull the rod and watch the oil run; simply releasing the rod makes it automatically close.

When installed the Testcock becomes a part of the car, the rod being of brass, the valve of cold-rolled steel, so that it cannot break or get out of order. Can be installed on a Ford in five minutes, according to the F. L. Huber Co., of St. Louis, Mo., and costs $1 each, everywhere.

F-F BATTERY BOOSTER IS SIMPLE.

The F-F battery booster, sold by Albert White & Co., 948 Market St., San Francisco, is said to be the most efficient means for charging all types of storage batteries. It is entirely automatic. With current off, as during the night, the battery cannot discharge through the rectifier and when current is on again the rectifier starts itself, thus night charging is safe and time-saving. The F-F booster is perfectly insulated. As to operation—snap the switch, the F-F does the rest. If battery is not disconnected when fully charged, no harm done, due to slow delivery of current then. Overcharging monthly at least is recommended. With the F-F alternating current battery booster or magnetic rectifier, the charge starts at a high rate, when battery is low and able to receive it. This shortens the charging time, and charge tapers down as it nears completion. This is impossible by any charging method operating at a low fixed rate.

ADVANTAGES OF ALUMINUM PISTONS.

The larger of two unusually clear, scientifically worded booklets from Aluminum Manufacturers, Inc., Cleveland, O., on Lynite pistons, contains a rather complete discussion of the advantages of aluminum pistons and tells of the construction of Lynite pistons. The smaller booklet is written from the car owner's viewpoint on the same subject. Also received is a booklet, "When is a pound not a pound?", tells of the importance of reducing unsprung weight in both passenger car and truck; also a folder covering Lynite forgings, telling of the saving possible in such parts as connecting rods, where great strength and ductility are needed. The company will be pleased to send anyone copies of these.

THE EASY FILLED GREASE CUP.

The leading feature of the Easy Filled grease cup, made by the Easy Filled Grease Cup Co., 1111 Post St., San Francisco, is the spring metal plunger, of thin spring metal, making the cup dust and leak proof, grease-tight and oil-tight. With a grease gun either grease or oil may be applied. The gun insures thorough lubrication, with not a particle outside the cup. The plunger is improved by use; takes up its own wear. Plunger and top are fixed to the barrel; nothing to mislay. To fill easily and quickly, open the metal cap and put it back with one turn; not like the old screw-telescope cups; no having to reenter the thread, with danger of crossing threads, making cups leaky and worthless. After filling the cup, there is a surplus, usable with just a turn of the plunger.

"RED SPOT" SEARCHLIGHT PRICE.

A change in price on the well-known "Red Spot" searchlight is announced in an interesting leaflet just issued by the F. W. Wakefield Brass Co., Vermilion, O. The leaflet is imprinted and furnished without charge to the trade, and should prove an effective piece of sales-winning advertising.

F-B TEST STAND FOR FORDS.

With the F-B test stand, exclusively distributed by the Fairbanks Co., New York, and priced at $350, it is claimed all Ford starting and lighting troubles may be located and repaired under the same conditions as in the actual use of the car. The illustration shows the "cutting in speed," also the "regulation" and "high speed." The third brush location can only be properly made with this

FIXES STARTING, LIGHTING TROUBLES.

equipment. Motoring speed and current draw of the generator is shown, as well as the torque and running speed of the motor. The tell-tale and test points easily locate shorts or grounds. The idea is to enable the repairman to be absolutely assured, after using it, that the car's equipment is O. K.

FREE TENAX SAMPLES OFFERED.

Tenax, compressed asbestos sheet packing, from which the shop man can make his own gaskets instead of keeping an expensive stock, trims easily, requires no following up, does not squeeze out of the joint, nor "fry"—it resists heat that melts iron. Small samples, with prices, will be sent to any address by the Advance Packing & Supply Co., 17 North Franklin St., Chicago.

DEFLECTS WIND, OR VENTILATES.

Wind deflectors, auxiliary windshields originated in the West. Used at first on expensive cars, various models made by the Pacific Wind Deflector Co., 814-D South Olive St., Los Angeles, are becoming popular with all. They either keep objectionable wind out or let welcome breezes in, as desired.

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THE SWING-SPOUT-OILER

FOUR SIZES:
PINT $2.25
1 QUART $2.50
½ GALLON $3.00
GALLON $3.50

Simplified
Saver of Patience Time and Money

Versus

Wasted Oil
Soiled Clothes
Time *and* Energy

TRULY A REVELATION *and* Decided Asset to the Pleasure of Every Tour

GLAZED COPPER FINISH
DURABLE PRACTICAL

Car Owners: If your dealer cannot supply you, write us direct.
For Sale By All Dealers

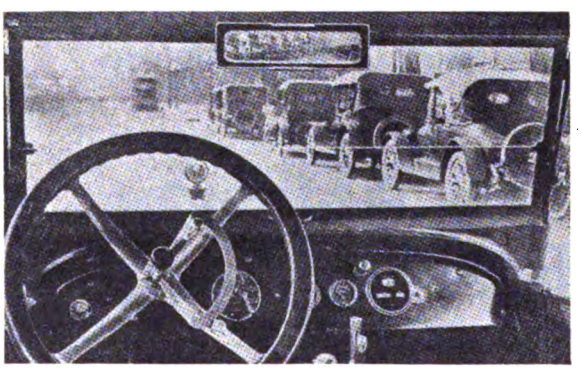
SWING-SPOUT MEASURE CO.
404 North Los Angeles Street Phone 632-91 Los Angeles, Cal.

"The Aristocrat of them All"

That touch of Luxurious Refinement
—PLUS—
Comfort *and* Security
Obtained by installing a pair of
TRADE **"WINGARDS"** *MARK*
Protecting you from cold winds, rain, etc.
Fully adjustable—used as summer ventilators.

WINGARD MFG. CO.
222 West 9th Street :: Los Angeles, Cal.
Phone 62866

The Road Behind You—Before Your Eyes
AS HERE SHOWN BY THE
"ELBE SPEEDASCOPE"



"REAR SIGHT MIRROR BEFORE YOUR EYES"

The Elbe Speedascope clamps over the top of the center of the windshield frame in a touring car.

The Elbe Speedascope is attached to the top, directly over the center of the windshield, in an enclosed car.

The Elbe Speedascope will not loosen from vibration, and once adjusted "stays put."

The Elbe Speedascope is made from the finest quality of French plate glass, mounted in finely finished nickel-plated frame.

THE BEST—NOT THE CHEAPEST
Price $5.00
Demand the Elbe Speedascope—Accept No Substitute
"The Road Behind You, Before Your Eyes," as shown by the use of the Elbe Speedascope Rear-sight Mirror.
Look for the Trade Mark on the back.

ELBE MOTOR COMPANY
1032 S. Grand Avenue LOS ANGELES, CAL.

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THE SIGN

OF SERVICE

Ahlberg Service Is Unusual

It is unusual in that it makes your bearing problems its own.

We have the most complete stock of New and Reground Bearings in the Country.

Ahlberg Bearing Company

317-327 E. 29th St. Chicago, Ill.

BRANCHES:

Atlanta, Ga.	Philadelphia, Pa.
Boston, Mass.	Portland, Ore.
Brooklyn, N. Y.	Pittsburgh, Pa.
Cleveland, O.	Omaha, Neb.
Detroit, Mich.	Providence, R. I.
Kansas City, Mo.	San Francisco, Cal.
Los Angeles, Cal.	St. Louis, Mo.
Minneapolis, Minn.	Memphis, Tenn.
New York, N. Y.	Cincinnati, O.
New Orleans	

Western Trade Notes

San Francisco, Cal.—Wesley D. Smith, former assistant Pacific Coast manager for the San Francisco Tire Co., has joined the forces of the Carsten-Williams Co., tire jobbers of Chicago, Ill. —Milton Righetti and Marius Righettti have sold their interest in the Western Garage, 3640 Sacramento St., to Roy F. Stadler and E. G. Sohm.—William Sealy, who two years ago left the Martin M. Hartman Motor Co. to join the colors, has returned to the company as general manager.—Tom Fuller has been named sales manager of the Roamer Motor Car Co. here.—A two-story concrete garage will be erected at 115 W. Leavenworth St., to cost $43,000, for J. A. Hatter.—Paul Duisch has bought the interest of Roscoe S. Day in the Golden Gate Vulcanizing Works, 760 Golden Gate Ave.—P. J. Gartland will have erected for him at Twelfth and Market Sts. a three-story concrete automobile sales and garage building, to cost $200,000.

Stockton, Cal.—The Delta Motor Truck Co. has taken the Gramm-Bernstein truck agency.

Oakland, Cal.—The Autocar Sales & Service Co. will have a one-story garage at Fourth and Aliso Sts., costing $23,000.

San Mateo, Cal.—W. J. Murray has sold the Menlo Garage to John Orton and James Murray.

Bay Point, Cal.—S. E. Burbank and D. B. Tucker have dissolved partnership in the Bay Point Garage, Tucker taking over the business.

Flagstaff, Ariz.—J. B. Gunter has purchased garage equipment and automobile accessories and will open a modern automobile accessory store at Holbrook.

Miami, Ariz.—The Johnson & Hoar Auto Supply Co. has opened in a new location on Beard St.

Mesa, Ariz.—C. E. Ellsworth and Ralph Brimhall have taken over the Try-It Service Station, formerly operated by L. E. Wyland.

Tombstone, Ariz.—The Tombstone Garage has opened a new automobile sales room in quarters formerly occupied by the Rock Co.

Westside, Cal.—Fred Fischer has sold his automobile top business, the Giovannoni Garage, to Krier & Cook.

Porterville, Cal.—J. C. Stephens, of the Stephens Auto Co., will build an artistically designed garage on the site of the present Associated Oil station at Main and Thurm Sts.

Chewalah, Wash.—The Chewalah Auto Co. has received a carload of Chevrolets and a carload of Moline tractors; orders now being placed are greater than cars for delivery; the H. S. Spedden Garage has received three carloads of Fords recently; W. E. Drinkard, Overland agent, reports demand for cars too good to enable him to continue promising immediate delivery.

Hanford, Cal.—Frank Lawrence, M. C. Armell, James A. Lewis and Louis Armell have formed a partnership to do a general garage business, handling cars, trucks and motorcycles.

Fresno, Cal.—Damir Brothers will locate in a new garage to be built on S. J St., costing $13,000.

Tulare, Cal.—C. R. Russell will have a $15,000 concrete and brick garage built here for him.

Oakland, Cal.—The Autocar Sales Service Co. will have a one-story brick garage and sales building erected for it at Fourth and Alice Sts., costing $23,000.

Taft, Cal.—Harry R. Kandoe, of the Maxwell Garage, has bought the Southern Garage from J. L. Bruce.

Eugene, Ore.—Ferris Hathaway, head of the Pacific Auto Co., will erect a fine-appearing building opposite the Osburn Hotel, to house his agencies for the Dodge and Maxwell lines.

The Dalles, Ore.—The Dalles Garage Co. has taken over the salesroom and accessory store formerly operated by L. E. Faust, at Hood River; the new branch will handle White, Studebaker and Maxwell cars.

Spokane, Wash.—J. Lewis Benton has bought the entire interest of G. Ward Collins in the Spokane Tire Shop, Inc.; he will continue the business under the same name as president, treasurer and general manager.

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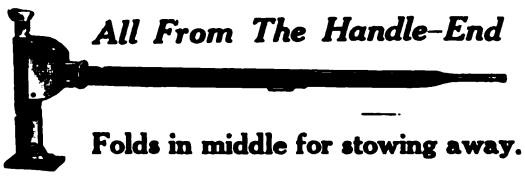
Lane's H.-C. Auto Jack

Is Placed on Handle and Pushed Under Car

PLACED OPERATED REVERSED WITHDRAWN



All From The Handle-End

Folds in middle for stowing away.

Thousands in use.

Absolutely Guaranteed. Write for Prices.

Pacific Coast Representative

JOHN T. ROWNTREE, Inc.

SAN FRANCISCO 979 Monadnock Bldg.

LOS ANGELES 601 Higgins Bldg.

SEATTLE 503 Maynard Bldg.

Manufactured by

LANE BROS. CO., Poughkeepsie, New York

Mansion Street

"The Freight Car of the Highways"

The Tower Assures—

Uninterrupted performance and service at an uncommonly low ton-mile cost.

Direct Factory Branches:

MINNEAPOLIS CHICAGO INDIANAPOLIS DETROIT

Write for Catalog.

Tower Motor Truck Co.

GREENVILLE :: MICHIGAN

Economy

For Any Tire —*and* Profit for Every Dealer

Wouldn't you like to outdistance competition? Wouldn't you like to sell an article that is so GOOD it ATTRACTS the customers into your store and makes other sales for you?

That's what ECONOMY TIRE COVERS are doing for other dealers. That's what they will do for you.

Simply say the word and we will send you complete information regarding the profit-making plans behind the Economy Tire Cover.

Remember—Economy Tire Covers are now a Bailey-Fitwell product.

THE BAILEY-FITWELL CO.

1318 SOUTH GRAND AVENUE
LOS ANGELES, CALIFORNIA

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BALL AND ROLLER BEARINGS

TRADE MARK SRB REGISTERED

FACTORY DISTRIBUTORS

All Kinds of Bearings in Stock

J. W. WEST COMPANY

1522 S. Grand Ave. Los Angeles, Cal.

Phone 22769

CLYDESDALE MOTOR TRUCKS

The "Driver Under the Hood," Clydesdale's automatic controller, is not an ordinary governor. It automatically and skillfully regulates the flow of power to immediately meet every changing road or load condition. It keeps the speed constant, prevents racing of the motor and clashing of gears.

1 to 5 Tons Net Load

The Clydesdale Motor Truck Company

CLYDE, OHIO

MODEL 502 TEST SET
Price $25.00 prepaid to you.

We manufacture electric testing, charging and magnetizing instruments for use in garages and service stations.

We publish the world's best book on motor car electric systems, showing wiring and circuit diagrams back to 1910. Also includes the elementary principles that you should know. Price delivered to you, $2.50.

Complete Catalog Free.

We have openings for a number of Western dealers. Write for our free catalog and dealers' proposition.

H. E. PHILLIPS & CO. Union City, Indiana

(Formerly Phillips Engineering Co. and Auto Electric Systems Publishing Co., Dayton, O.)

There is a Firestone Truck Tire for every load, road and condition of service

Firestone

Portland, Ore.—The McCraken Motor Co. has taken a five-year lease on a two-story building, costing $30,000, to be erected at Fourteenth and Morrison Sts.—An $18,000 building, to be erected at Tenth and Hoyt Sts., has been leased for five years by the Gary Auto Truck Co.—Oregon Auto Repair Co. has moved into a new building, one of the most up to date in the city, at Sixteenth and Glisan Sts.; the company was formed recently to do a general garage and storage business.—The J. H. Graham Motors Co., distributors of Case and Scripps-Booth cars, is now located in fine new quarters at 89-93 Tenth St.

Long Beach, Cal.—The Western Automotive Supply House has moved to its new store at 147 E. Fourth St.—The Mission Garage has moved to its new garage and sales rooms at 132 Locust Ave.; they handle Willys-Knight and Overland cars.—The Vaughan Motor Car Co., handling Westcott, Allen, Jones and Gardner cars, is located in its new sales rooms at 210-12 E. Fourth St.—The Long Beach Motor Car Co. has moved into a new building at 230 E. Third St., distributing Metz cars and Bethlehem trucks.—Frank W. Baker will build a new modern garage here, to cost $8,000.—The D. F. Wisdom Motor Co., Inc., has been formed here with $25,000 capital stock by D. F. Wisdom, K. J. Vatcher and R. F. Shippee.

Williams, Cal.—Fred Renstrom has opened a large store and garage here, together with the agency for the Twin-City tractor.

Eureka, Cal.—The Eureka Welding Works has been opened on Second St. by B. W. Westfall and A. E. Doburn.

Redding, Cal.—Walter Shipley has bought ground and will build a new garage, of brick construction and containing 7,000 square feet of floor space.

San Pedro, Cal.—The Wilmington Garage has been taken over by R. Mahar and C. Menvey.—Frank Blackstone has bought the interests of L. H. LeGrant in the Kolb & LeGrant Auto Repair Co., LeGrant retiring from the firm.

Orange, Cal.—The H. L. Howen Tire & Vulcanizing Co. has been bought by the Citrus Tire & Truck Co.

Whittier, Cal.—Heard Rees has opened a new sales room on East Philadelphia St. to handle Oakland and Moon cars and Fageol tractors.

Calexico, Cal.—Robert Hinkly has been appointed manager of the new Savage tire sales branch here by James T. Coyle, Imperial Valley representative for the Savage Tire Co., of San Diego.

El Centro, Cal.—The General Sales Co., Imperial Valley dealer for Hudson, Maxwell and Essex cars, will build a new home to cost $18,000 at Main and Eighth Sts.

Blythe, Cal.—West & Richards are having a fine new brick garage built here for them in the local automobile row.

Riverside, Cal.—C. S. Gross has been appointed Gardner Six agent here.

Anaheim, Cal.—W. A. Snyder has retired from the firm of Thompson & Snyder, R. P. Thompson continuing the business of the Gates Half-Sole Tire Shop.—Walter & Day have dissolved partnership; Walter continues the business under the name of J. E. Walter & Co., handling Premier and Mitchell cars and All-Work tractors.

Pomona, Cal.—Milton W. Zander, Briscoe agent, will build a fine brick garage on Monterey St., occupying the entire building with garage, office and accessories department.

MOTOR WEST

reaches a larger percentage of dealers than any automobile publication circulated on the

PACIFIC COAST

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Think this over!
The strength of a chain only equals its weakest link and the best engine or machine built is useless if a vital nut gets loose.

DRAKE LOCK-NUTS
TRADE MARK REGISTERED U.S. PAT. OFF

"NEVER JAR LOOSE"

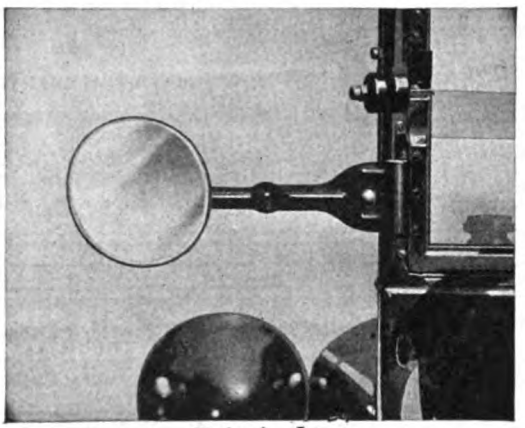
WRITE FOR SAMPLE

STANDARD EQUIPMENT COVERING VITAL POINTS BY MANY CAREFUL MANUFACTURERS.

TRY THEM ON YOUR UPKEEP.
SPECIFY ON ALL NEW EQUIPMENT.

DRAKE LOCK-NUT CO.
CLEVELAND, OHIO (Plants) SAN FRANCISCO, CAL.

Hindview Auto Mirrors



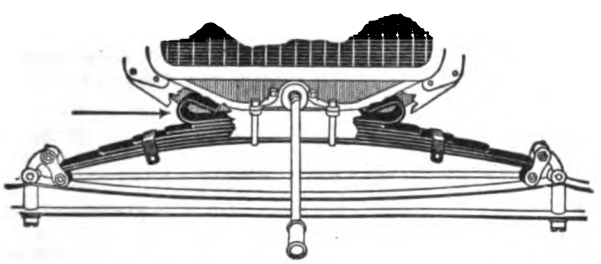
Style A—Long

The "Hindview" Auto Mirror prevents accidents by enabling the driver to keep an eye on the rear traffic without losing sight of the road ahead. The Ball Joint allows immediate adjustment to any desired angle without the use of any tool.

Write for descriptive folder No. 19 showing complete line.

A. E. MOHRIG, 340 Phelan Bldg., San Francisco, Cal.
Pacific Coast Representative

KALES STAMPING COMPANY
444 West Lafayette Blvd. DETROIT, MICH.



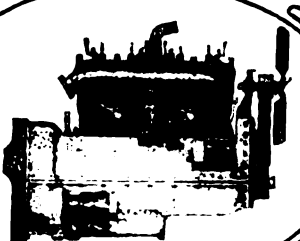
The Saveur Ford Front Spring
is built to withstand severe abuse without breakage

It does not take a mechanical mind to instantly see that when a severe bump is received that nearly straightens out the spring, the open looped end of top leaf comes in contact with frame of car and checks the strain on spring, and ALL of the car.

To equip a Ford with the SAVEUR Front Spring will save spring, money and annoyance. Write for complete information. Don't put it off. Write today.

New Era Spring & Specialty Co.
1190 Hamilton Ave. Grand Rapids, Mich.

The Open Loops
DO THE WORK



Wisconsin
CONSISTENT

Fulfills All Its Promises

WISCONSIN Motors leave the shops ready to run. They save money for the dealer by eliminating service costs and assure the owner of consistent, dependable power service.

Truck, tractor or passenger car builders specifying the Wisconsin know that the name "Wisconsin" certifies to the highest standards of engineering practice.
Each Wisconsin Motor is tested for power with an electric dynamometer—it must "deliver the goods" before our inspectors will pass it.
Slightly higher priced of course, but in the end an economy all around.
Shall we send you the illustrated booklet, "Honors Wisconsin Has Won"?

WISCONSIN MOTOR MFG. CO.
Station A, Dept. 314 Milwaukee, Wis.

Pacific Coast Distributors
EARL P. COOPER CO.,
1310 S. Los Angeles St., Los Angeles, Cal.
CHANDLER DUNLAP CO.,
Seattle, Wash.

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L. S. LUARD H. A. McMULLEN

Olive Street Garage

Authorized Rayfield Factory Service Station.

RAYFIELD CARBURETORS SERVICE STATION

OPEN DAY and NIGHT.

Tow-car service at any hour.

Repair Shop in connection.

846 South Olive Street, Los Angeles

Automatic 61009. Main 7227.

Profitable Opportunity to Engage in the Tire Business

Large manufacturer of an established, high grade standard make tire (sold with a guarantee of 6000 miles), will co-operate with responsible business man in establishing a big jobbing and retail tire business in Kansas City, Denver, Los Angeles, San Francisco, Dallas and other large centers in the West.

Previous tire experience not necessary. We will teach you tire merchandising from every angle. Applicant should be thoroughly familiar with general business fundamentals and be in a position to invest from $5,000 to $15,000.

Hundreds of sub-dealers in tires can be appointed in each territory—to handle this quality tire. This is a lifetime opportunity for an aggressive "live-wire" hustler to identify himself with one of the three largest industries of the country, on a basis that should prove unusually profitable.

Wire or Write for Details or Appointment to

SAMUEL VANCE, JR., Gen. Sales Mgr.

NATIONAL RUBBER PRODUCTS CORP.

660 North Broad Street Philadelphia, Pa.

The Salient Motor Car

STEPHENS

Salient Six

Surpassing excellence in all its qualities, features and acts of performance is the kind of value and service that makes the Stephens the Salient Motor Car.

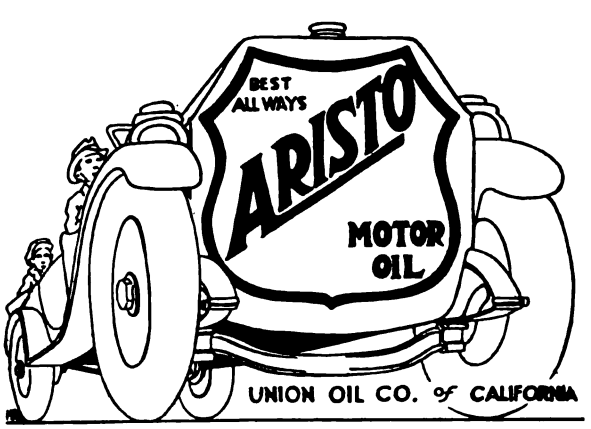
STEPHENS MOTOR WORKS

of Moline Plow Co.

Sales Office, Moline, Ill. Factories, Freeport, Ill.

STEPHENS

Salient Six



Los Angeles, Cal.—The Alemite Lubricator Co. will have a new sales and service building, 50x155 feet, at 1136-38 S. Figueroa St.—A three-story garage will be erected for C. W. Johnson, costing $60,000, at South Grand Ave.—A. G. Sharkey will move into a new garage now completed at 1633 S. Hope St.—Clyde L. Miller and John F. Miller have opened the firm of Clyde L. Miller & Co., to run a wholesale automobile accessory sales business; they will sell only to dealers, making some accessories themselves, and have located at 1544 Cahuenga Ave. in the Hollywood district.—Metzger & Jerrue have opened an up-to-date automobile accessory house at 409-11 West Pico St.; Metzger was formerly with Weinstock-Nichols Co.—Don Cann has leased an up-to-date garage to be built at 3705 E. First St.—The A. B. C. Oil & Grease Co. has been formed with $150,000 capital stock by C. C. Carter, E. Brown and J. Cavresel.—The Parker & Waterman Mfg. Co. has been formed, $25,000 capital, by Harry M. Waterman, Leonard Parker, C. E. Palmer and R. B. Bailey.—R. N. Thomas & Co. have opened a tire store at 405 W. Pico St., handling Ad-Mor-Myles inner-sole tires.—T. P. and W. I. Tupham, Ford agents, Vermont and Thirty-fifth Sts., will erect a new sales building at Vermont and Jefferson Sts.

Chico, Cal.—H. J. Povenchor has announced the formation of the partnership of Davidson & Povenchor, handling Essex and Hudson cars.—The partnership between R. B. Bachelder and J. A. Ham under the name of J. A. Ham Motor Co. has been dissolved.

Modesto, Cal.—W. C. Hewitt and R. Burkitt have taken over the Finn Brothers Tire Supply Co. on Ninth St.

Newman, Cal.—The Highway Garage has been opened here by V. A. Meacham.

Oakdale, Cal.—C. J. Walter has taken over the Oakdale Garage.

Vancouver, Wash.—Two adjoining garages, costing a total of $60,000, will be built here on Washington St.; one will be for the Ford & Fordson Agency, and the other for the Vancouver-Overland Co.

Eugene, Ore.—The Eugene Tractor Co., headed by H. R. Salisbury, has been opened here and will do a general business in selling Samson tractors, in addition to farm implements, trucks and lighting systems.

Colfax, Wash.—A new concrete garage, containing nearly 20,000 square feet of floor space, will be erected for the Aken Motor Co. on Mill St.

Ely, Nev.—W. Arthur and Harry D. Thomas have taken over the Motor Shop and will do a general repairing and accessories sales business.

Spokane, Wash.—The Northwest Machinery & Storage Co., capital stock, $25,000, has been incorporated here to do a general automobile repair and storage business.

Wallace, Ida.—The twenty-sixth associate branch of Riegel Bros., of Spokane, Wash., distributing Dodge cars, has been opened here with James St. Clair as manager in a new fireproof brick and concrete sales building.

Seattle, Wash.—The Automotive Service Co., capital stock $20,000, has been formed here by H. E. Komitch and G. W. Thompson.—The B. F. Goodrich Rubber Co., W. D. Albright, Northwest manager, has moved to 1522 Twelfth Ave., between Pike and Pine Sts.—N. Edward Beck, formerly with the Automobile Club of Western Washington, has been named advertising manager for the Frank Waterhouse Co., Marmon dealer.

MOHAWK

"Quality" **TIRES**

—are made **by hand** from purest materials only.

—are uniformly good, and wear longer.

—are made for the motorist who wants the best.

THE MOHAWK RUBBER COMPANY

Akron, Ohio.

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PARAB-O-LIGHT

"The Lens That's Right"

Tested and Approved in California.

The lens that conserves the energy from the storage battery by producing a perfect driving light when used with bulbs of 15 to 20 C. P.

Prices: $3.25 to $4.25 per pair.

THE J. D. FRENCH COMPANY
30-32 DAVIS STREET
PACIFIC COAST DISTRIBUTOR

THE ZORGER LENS COMPANY
CHAMPAIGN, ILL.

AUTO
"Cleaning and Polishing"

By a Genuine Institution Employing Experts, Operating under later and Up To Date Methods

"SERVICE TO THE LAST LETTER"
—OUR MOTTO—

OUR NEW AND COMMODIOUS BRICK STRUCTURE AFFORDS FIREPROOF STORAGE

"USED CARS AND ACCESSORIES"

HEWITT TIRES AND TUBES

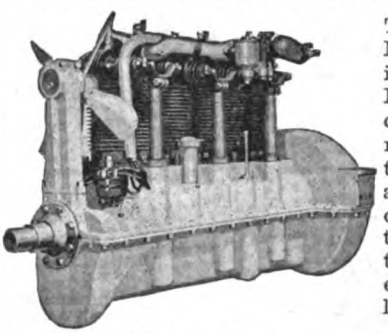
Southern California Auto Cleaning Company
(CAPT. SHERWOOD W. WHITCHER)
1049 South Flower Street Los Angeles, Cal.
Phone 14033

JUMBO
The Company Truck

Full Line of Sizes Completely Equipped. No Extras to Buy Except Body.

NELSON MOTOR TRUCK COMPANY
SAGINAW :: MICHIGAN

DIRECT CAMERON MOTOR AIR COOLED



The Cameron Air Cooled Motor is the last word in engine refinement. Engine temperature is constant in efficiency, regardless of all conditions. Cars so equipped are freed from the inconstant and unsatisfactory water cooling system with its steam generating, freezing and leaking evils.

Cameron Motors Corp. 2 Columbus Circle, New York City

EISEMANN
MAGNETO

For easy starting in any temperature—
For the hot, fat spark at all speeds—
For dependability under all conditions—

The Eisemann is Supreme!

Eisemann Magneto Corporation
32-33d St., Brooklyn, N. Y.
Chicago, 1469 S. Michigan Ave.
Detroit, 85 Willis Ave., W.

SECURITY AUTO LOCK

The original loose wheel lock for Fords. Approved by under writers. Insurance reduced 15%. Made of solid brass. Nickel plated. Easily installed in 10 minutes. No drilling. No filing.

No sawing.

No chiseling.

Price $6.50.

Western Distributors Wanted.

SECURITY AUTO LOCK CO.
410 N. Paulina St.
Chicago, Ill.

GRANT
SIX

You will agree with us that the new Grant epitomizes, smartness, comfort and fine engineering. Every mechanical detail measures up to the highest expectations.

GRANT MOTOR CAR CORPORATION
CLEVELAND, OHIO

MORELAND TRUCKS

All Morelands burn Distillate

They are reliable, rugged and powerfu transportation units

Moreland Motor Truck Co.
1701-31 N. Main Street Los Angeles, Cal.

BEST FOR THE WEST

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MOTOR WEST'S REGIONAL MOTOR MART

RATES—One time, $4.00 per inch; three times, $3.75 per inch; six times, $3.50 per inch; twelve times, $3.25 per inch; twenty-four times, $2.75 inch

PARTS.

PARTS PARTS PARTS

Make the California Auto Parts & Wrecking Co. your headquarters for everything in repairs and accessories for all makes and models of cars, both old and new.

MOTORS MOTORS MOTORS

Hundreds of them, all sizes and for every purpose. If your old motor is worn out, or beyond ordinary repair, we will furnish you with one to replace it, no matter what make, and give you liberal allowance on old motor. We have hundreds of them. Also hundreds of crank cases, cylinders, crankshafts, clutches, pistons and connecting rods, wheels, frames, steering assemblies, gears, rear end axles, radiators; in fact, everything and anything needed for an auto.

ACCESSORIES ACCESSORIES

All new accessories at a saving of 30 to 50%. We also carry a large stock of new gears for many makes and models of cars.

Learn to rely on our service. It is efficient and prompt. No matter what you want, it is usually to be found in our immense stock, the accumulation of ten years' business.

California Auto Parts & Wrecking Company

523 Golden Gate Ave., San Francisco, Cal.
Branch: 1130 S. Main St., Los Angeles, Cal.

WINDSHIELD CLEANERS

RAIN-SNO
CLEAR VIEW
WINDSHIELD CLOTH
AVOID ACCIDENTS

Do not drive your car with a Rain-Blurred Windshield
Over 10,000 Accidents Yearly caused by such a condition

RAIN-SNO "RED CLOTH" keeps the entire glass clear by chemical action. One application over wet windshield will give a clear driving vision which will last as long as any storm. *Be insured against accident* and secure a RAIN-SNO CLOTH today. At your dealers or by mail postpaid. **Price 50 cents**

Refuse substitutes and insist upon the Original "RED CLOTH"

Made only by SUFFOLK MANUFACTURING CO.
3168 Washington St., Boston, Mass.

AUTO BODIES

COMMERCIAL *and* TRUCK BODIES FOR FORDS

BARNETT AUTO BODY CO.
430 Golden Gate Ave. :: San Francisco

FREIGHT FORWARDING.

Traffic Managers Ship Brokers
Ocean Freight Forwarders

WESTERN TRAFFIC SERVICE
FREIGHT RATE EXPERTS
JAMES E. HELPLING, General Manager
Marsh-Strong Bldg. LOS ANGELES, CAL.
MAIN 7578

SPRINGS

Cambria Spring Company
"Proven Quality"
CHROME VANADIUM AND CARBON STEEL SPRINGS

Cambria, the Unbreakable Rattle and Squeak Proof Bumper

High-Grade Second Growth Hickory Wheels Springs, Wheels and Bumpers Repaired

Wrecking Jobs Our Specialty

Tire Racks and Platforms Applied
Forgings, Demountable Rims Applied

Main 1076—65233 916 So. Los Angeles St.
LOS ANGELES

GRUSS

Distinguishes the BEST from the REST
The *Choice* of the MAN *who* KNOWS
No Rocking or Swaying on Curves
Guaranteed 5 Years

GRUSS AIR SPRING CO.
Telephone Park 7306—7307
179 Grove Street, Opp City Hall, San Francisco
Branches:
Los Angeles, 775 Towne Ave. Portland, Ore., 503 Alder Seattle, Wash., 562-1st Ave., S.

FOREVER FREE YOURSELF
From All
Spring Breakage Worries
With
"SPRINGLIFE"
The Last Word In
SPRING LUBRICATION

Makes motoring real comfort by eliminating all jar, due to 100% perfect lubrication.

Springlife Co. of Los Angeles
939 So. Grand Ave. Phone 14420.

Your car called for and delivered same day.
"Dealers Write for Attractive Proposition"

TRAILERS

$35 TO $350

2- and 4-Wheeled Trailers
Auto Trailer Co.
1322 S. Central Ave., Los Angeles, Cal.

ACCESSORIES.

Rose Fil-A-Gun Grease Bucket

Pumps to the Car or fills the Grease Gun

No Other Device on the Market Will Do This

Holds 25 lbs. Grease. Pumps ¼ lb. to stroke Grease Gun included with Bucket. List **$12.50**

Ask Your Jobber.

Frank Rose Mfg. Co.
Hastings, Neb.

VULCANIZERS.

SOPER VULCANIZER MFG. CO.

The Last Word in Vulcanizing Machinery
Send for Catalogue
110 East Eleventh St., Los Angeles, Cal.

TRANSFORMERS.

EMO TRANSFORMERS

Will Increase Power—Add Fuel Mileage—For Automobiles, Aeroplanes, Trucks, Tractors, Motorcycles, Marine and Stationary Engines

EMO TRANSFORMERS transform the ordinary slow, faint spark into a high-tension blue blaze or flame which instantly explodes all the vapors even in the lowest gravity fuel, thereby insuring greatly added power and mileage. This intensive blue-white EMO flash keeps the spark plug points free from carbon, soot and oil. Prevents "bucking" or "loping." Insures easy starting, quicker acceleration, and a sturdy, uniform flow of power at all speeds. Protects the entire ignition system. Save many times their cost in fuel and spark plug economy. One EMO on each plug makes all cylinders pull even. Can be attached by anyone.

$1.00 Each at Dealers, or sent prepaid upon receipt of price. State make of car when ordering.

The Emo Laboratories 2265 North Illinois St. INDIANAPOLIS, IND.

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AUTOMOBILES

THE steadily increasing demand for Oldsmobiles is proof of Oldsmobile quality. Twenty-one years motor car building experience are behind the Oldsmobile of today.

Power and economy feature its performance.

SIXES and EIGHTS

J. W. LEAVITT & CO.
DISTRIBUTORS
1150 South Figueroa Street

L. V. STARR, Manager

BUICK
VALVE-IN-HEAD MOTOR CARS
HOWARD AUTO CO
1323 S. Flower St. Los Angeles

LATE TRADE NEWS

Hare's Motors Enters Field.

Hare's Motors, to control jointly the Locomobile, Mercer and Simplex companies, is announced in Detroit by Emlen S. Hare, who was formerly vice-president of Packard. He says it is expected to do an annual business of $200,000,000 within five years. It will make three grades of quality cars at the start and probably will then add trucks. Among the men in the new company are H. D. Church, formerly truck division chief engineer; O. E. Hunt, former motor division chief engineer; Henry Lansdale, former general carriages salesman; F. Van Z. Lane, formerly general transportation engineer; all of Packard.

Present Locomobile and Mercer models are to be continued. The new concern is said to have all the orders promised that it can handle for a long time. Mr. Hare has in mind the growing demand for quality cars.

* * *

Jones Succeeds Norwood.

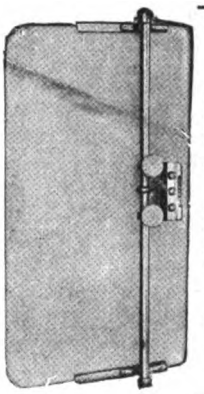
Guy E. Norwood has resigned as president of the Republic Rubber Co., Youngstown, O., being succeeded by E. F. Jones, formerly of the Elyria Steel Co. Mr. Norwood will continue as a director and advisor.

* * *

Paepper Takes Southern Position.

E. F. Paepper, who was chief engineer of the Republic Motor Truck Co. and later with the All American Motor Truck Co., now is chief engineer of the Superior Motor Truck Co., Atlanta, Ga.

WIND DEFLECTORS



SIDETRACK the WIND
Attach PACIFIC WIND DEFLECTORS
Ride in solid comfort. Keep that draft off. You not only owe this added comfort to yourself, but to your passengers.
No Perforations in Glass
Rust-Proof Brackets
Rattle-Proof
Not a novelty, but a proven, practical necessity. Accept no substitutes, demand Pacifics.
(Name on each pair.)
Price $20.00.
Pacific Windshield Co.
814 South Olive St.
Los Angeles, Cal.
Phone M. 8133

AUTOMOBILE MAILING LISTS.

SPECIAL MAILING LISTS OF AUTOMOBILE owners, any make of car, any state in the Union. Direct mail advertising campaigns our specialty. Lists of garages, dealers, accessory firms—all states.
AUTOMOBILE PUBLISHING CO.,
223 West 9th St., Los Angeles.
Publishers California Automobile Directory.
Phone Pico 3640.

ROAD SERVICE.

TEDDY TETZLAFF SERVICE
Completely Equipped Machine Shop
"DAY & NIGHT" Service for all Road Trouble
CALL MAIN 8133
810-818 So. Olive St. LOS ANGELES

TIRE PATCHES

TIRE PATCHES
EVERLASTING MFG. CO.
Manufacturers and Distributors of High-Grade Auto Necessities.
528 Pacific Bldg., San Francisco, Calif.
Everlasting Tire Repair Kits
50c and $1.00
Rebuilt Tires Guaranteed 10,000 Miles
Inside Tires Guaranteed Against Blowouts
New Advance of Tires 25%
Why Not Rebuild Them?
Agents Wanted—Exclusive Territory

Cascade Tire Officers Elected.

Stockholders of the Cascade Tire & Rubber Co., Ravenna, O., elected directors, who elected Harry C. Thomas, president; E. W. Davis, vice-president; S. G. Abbott, secretary and treasurer; R. G. Ingleson, general manager; M. E. Nichols, production manager. The directors are Harry C. Lynch, Ira C. Farley, R. G. Ingleson, S. G. Abbott, Milton Fleisher, F. M. Sharp and M. E. Nichols.

* * *

Fisher Heads Buda Sales.

R. B. Fisher has been made general sales manager of the Buda Co., of Harvey, Ill., manufacturer of Buda engines. He will direct all domestic and foreign sales of the company and its advertising department. J. P. Mahoney continues as sales manager of the engine division; S. Gordon Hyde remains advertising manager of the company.

VULCANIZERS

"PACIFIC TIRE MOLD"
COMBINATION RETREAD MOLD AND SECTIONAL MOLD
Design, Material, Workmanship FIRST
Priced Right.

Manufactured by
L. L. CALDWELL CO.
1128 Van Nuys Bldg., Los Angeles, Cal.
A response to this Ad if mentioned will entitle you to a special discount.

TRUCK ATTACHMENTS

L-B. Sales Co.
Truck Attachments
1-2-3 TON CAPACITY
—Using—
Torbensen Axles
"Moore"
Auxiliary Transmission for Ford Cars and Trucks.
1416 South Los Angeles Street
Los Angeles, Cal.

GASOLINE ECONOMIZER

MOTORLIFE
TRADE MARK REG.
Saves 25% to 50% Gasoline, removes carbon, produces motor efficiency and completes lubrication.
Motorlife is guaranteed harmless to any motor, under all conditions and in any quantity.
Purchase price refunded if Motorlife does not prove satisfactory.
Motorlife must eventually become part of your equipment. Why not now?
M. F. ENDERLE, So. Cal. Dist.,
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W. H. A. SHERMAN,
Los Angeles Co. Agt., Phone Main 3903.

FOR SALE

FOR SALE
Hudson Super-Six Special
Racing Car
Equipped with self-starter, extra parts and extra wheels.
115 H. P.—guaranteed to do 100 miles an hour. Car now in Los Angeles.
Address Owner
Care of MOTOR WEST
911 Marsh-Strong Bldg., Los Angeles, Cal.

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THE LEADER OF LIGHT WEIGHT CARS

BRISCOE

Touring Car
$1185

Sedan
$1885

All Prices F. O. B Factory

A WONDERFUL example of the fact that class and costliness are not necessarily partners in the motor-car field.

The new 1920 Briscoe has all the features of economy, endurance and ease that have made the car famous, plus a score of added refinements and efficiencies of design.

BRISCOE MOTOR CORPORATION, JACKSON, MICHIGAN

The Canadian Briscoe Motor Company, Limited, Brockville, Ontario (36)

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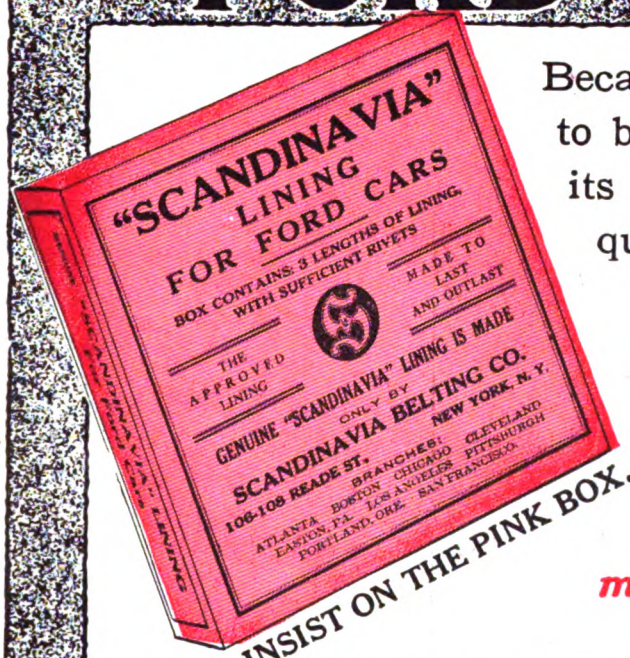
BRAKE LINING for FORD CARS



INSIST ON THE PINK BOX.

Because it has proven itself to be all economy through its unusual long wearing qualities, and its satisfactory service during long usage—

Scandinavia has been the accepted lining for Fords for many years.

AS EFFICIENT AS AN AIR BRAKE--THE LINING DE LUXE FOR FORD CARS

Scandinavia is made especially for Ford use. The hot, oily condition of the Planetary Transmission cannot harm it.

It will not chatter or glaze.

It is wear proof.

It is made of the best long staple cotton interwoven into a compact fabric, especially impregnated, processed and hardened to resist heat, oil and grit.

ATTRACTIVE PROPOSITION TO JOBBER AND DEALER.

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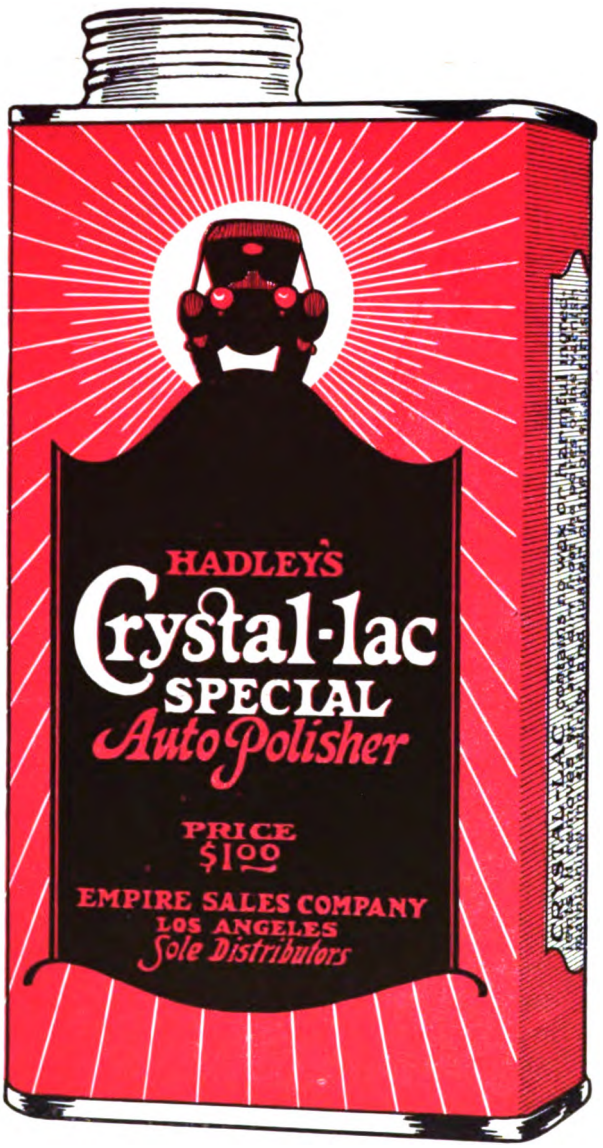
CRYSTAL-LAC
SPECIAL
Auto Polisher



Auto Polisher

A PERFECT PRODUCT

Made possible by seven years' conscientious laboratory experiments.

A GUARANTEED POLISH

Appealing to the most fastidious trade and those who know.

"BUILDS INTO NOT ONTO THE VARNISH"

"PRODUCES NEW ELASTICITY AND LONG LIFE"

Write us in reference to our other 100 per cent products. "You'll Swear By Them"

Crystal-lac Auto Enamel Cleaner
Crystal-lac Furniture Polisher

EMPIRE SALES COMPANY

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Miller Carburetors Ever Victorious

OVER 100,000 PEOPLE
Witness Great Victories for
Miller Carburetor
AT THE
New Los Angeles Speedway
ON
February 28th and March 28th
1920

ALL THE LEADING CARS WERE
"MILLER EQUIPPED"
AS USUAL

The proofs of Miller Superiority keep piling up. Drivers, cars, distances, conditions and localities vary in practically every detail except one—the WINNERS are always equipped with MILLER CARBURETORS.

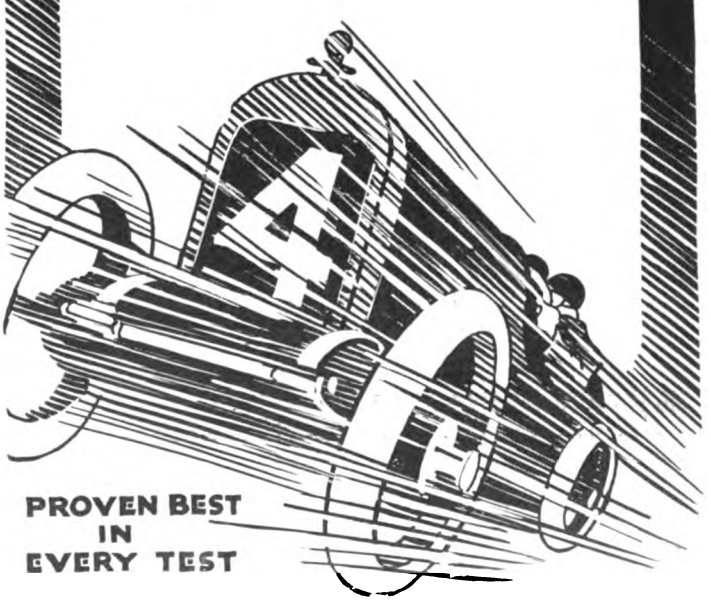
World's Champion for 1916-17-18-19 and 20
A RECORD UNEQUALED.

There is a Miller for every engine, made in all sizes. Maximum Economy and Greater Power.

Order direct—or through your dealer.

DEALERS: Some desirable territory still open. Write for our proposition and literature.

Harry A. Miller Mfg. Co.
Manufacturers and Distributors
LOS ANGELES :: U. S. A.



PROVEN BEST IN EVERY TEST

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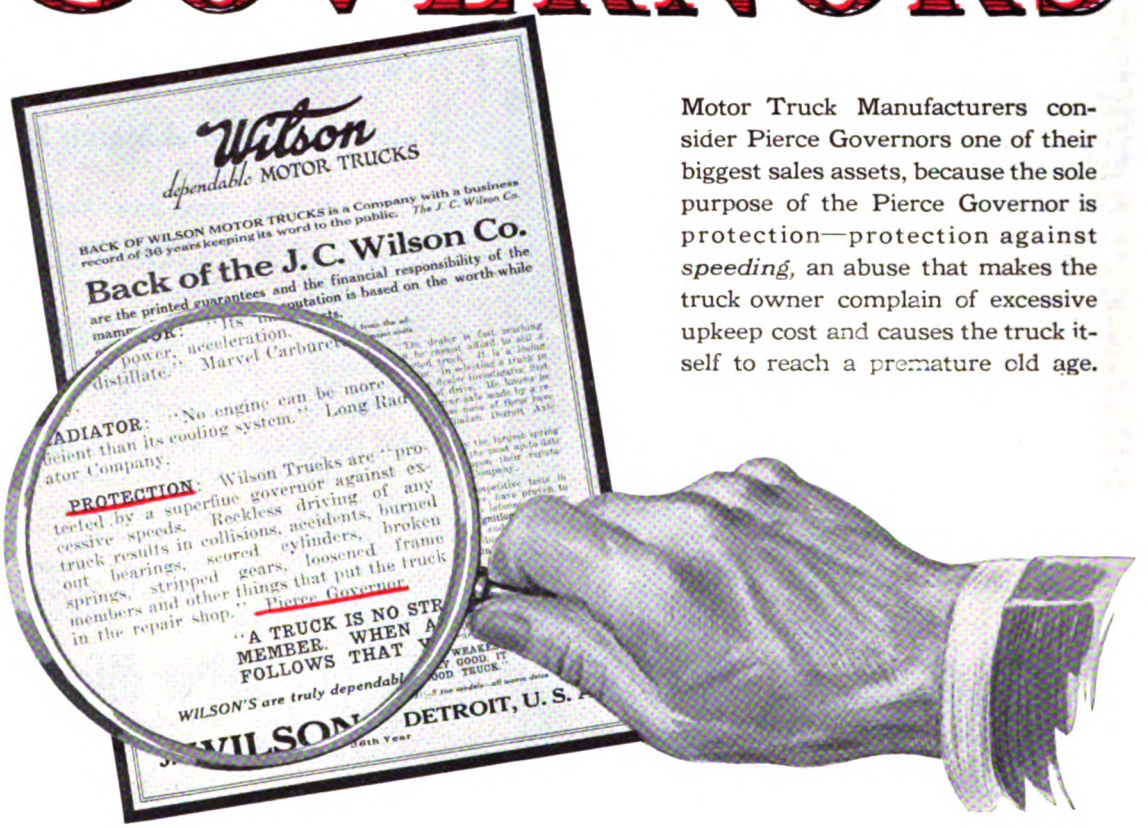
PIERCE GOVERNORS



Motor Truck Manufacturers consider Pierce Governors one of their biggest sales assets, because the sole purpose of the Pierce Governor is protection—protection against *speeding*, an abuse that makes the truck owner complain of excessive upkeep cost and causes the truck itself to reach a premature old age.

Pierce Equipped Trucks Are Better Trucks

That explains why 103 motor truck manufacturers have made Pierce Governors standard equipment.

THE PIERCE GOVERNOR COMPANY

"WORLD'S LARGEST GOVERNOR BUILDERS"

ANDERSON, INDIANA

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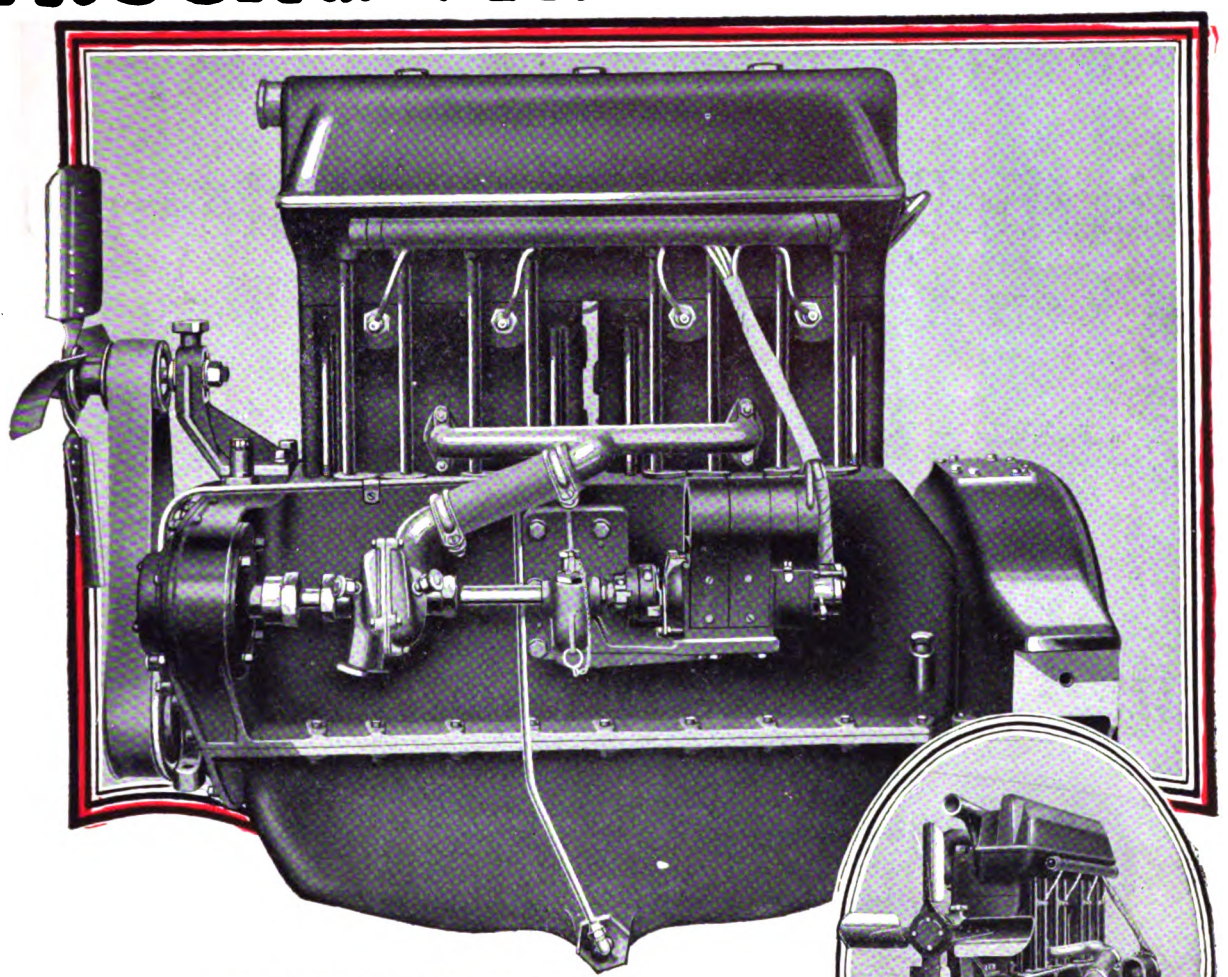
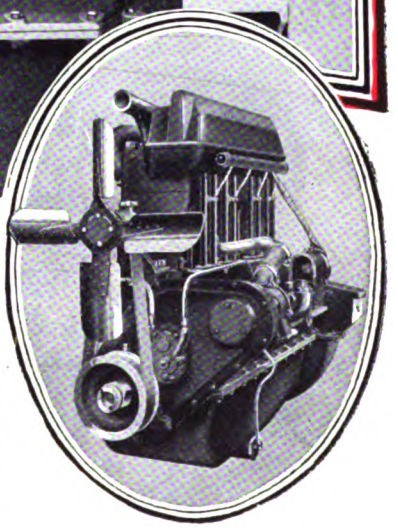
MIDWEST

TRUCK and TRACTOR ENGINE





Midwest 4½ x 6", 3 point suspension, high speed, heavy duty Truck Engine, furnished with either No. 2 or No. 3 S. A. E. bell-housing.

APPROVED BY THE LEADING TRUCK ENGINEERS OF THIS COUNTRY

The Midwest Truck Engine expresses the composite desires of the best truck engineers in the country. They have sensed for years the growing demand for increased average speed in heavy-duty trucks—they have watched, with interest and concern, the many semi-successful attempts to render *high speed*, heavy-duty service with low speed, heavy-duty engines.

These engineers have given the Midwest engine test upon test. They have tried in every manner to find *one spot* in the design of this engine that would not measure up to present day standards, but—they have found an engine so effectively lubricated—so rigidly over-sized in crankshaft and all component parts—and so masterfully assembled that they admit that here at last is the first real heavy-duty, high speed truck engine that will satisfactorily and continuously deliver constant service under full load—at a guaranteed engine speed far above that attempted, or delivered, by any other engine on the market.

Some open capacity available on the 4½ x 6" and 4⅛ x 5¼" sizes.

Before you make new engine contracts let us talk over your truck engine requirements.

Please Address Sales Division 17

MIDWEST ENGINE COMPANY
INDIANAPOLIS, INDIANA

Dependable Power

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CONQUEROR OF THE HIGHWAYS

Now is the Time to Make a "Clean-Up" If You Are Selling the Right Truck

1 and 1½ TONS

Napoleon Trucks have earned a reputation for being as nearly fool-proof as a motor truck can be.

Day after day these sturdy trucks ply the endless highways of the nation—at a minimum cost of maintenance—without lay up for repairs.

This achievement in super design and construction, so predominant in Napoleon Trucks, has had a most favorable effect on dealers' sales.

Napoleon dealers find it very easy to sell Napoleon Trucks. Their problem is not so much how to dispose of their alloted quota, but how to obtain more than their contract calls for. This condition exists in spite of our exceptional promptness of delivery.

Really you should share in this profitable volume of business within the easy reach of any Napoleon dealer—anywhere.

If you are the kind of a dealer who can assume the responsibility of representing us in your territory, we have a selling proposition which will appeal to you.

Write for Our Dealer Selling Plan Today

NAPOLEON MOTORS COMPANY

TRAVERSE CITY - - - MICHIGAN

EXPORT OFFICE: 100 Broad St., New York, U. S. A.

LONDON——PARIS——BRUSSELS.

NAPOLEON TRUCKS

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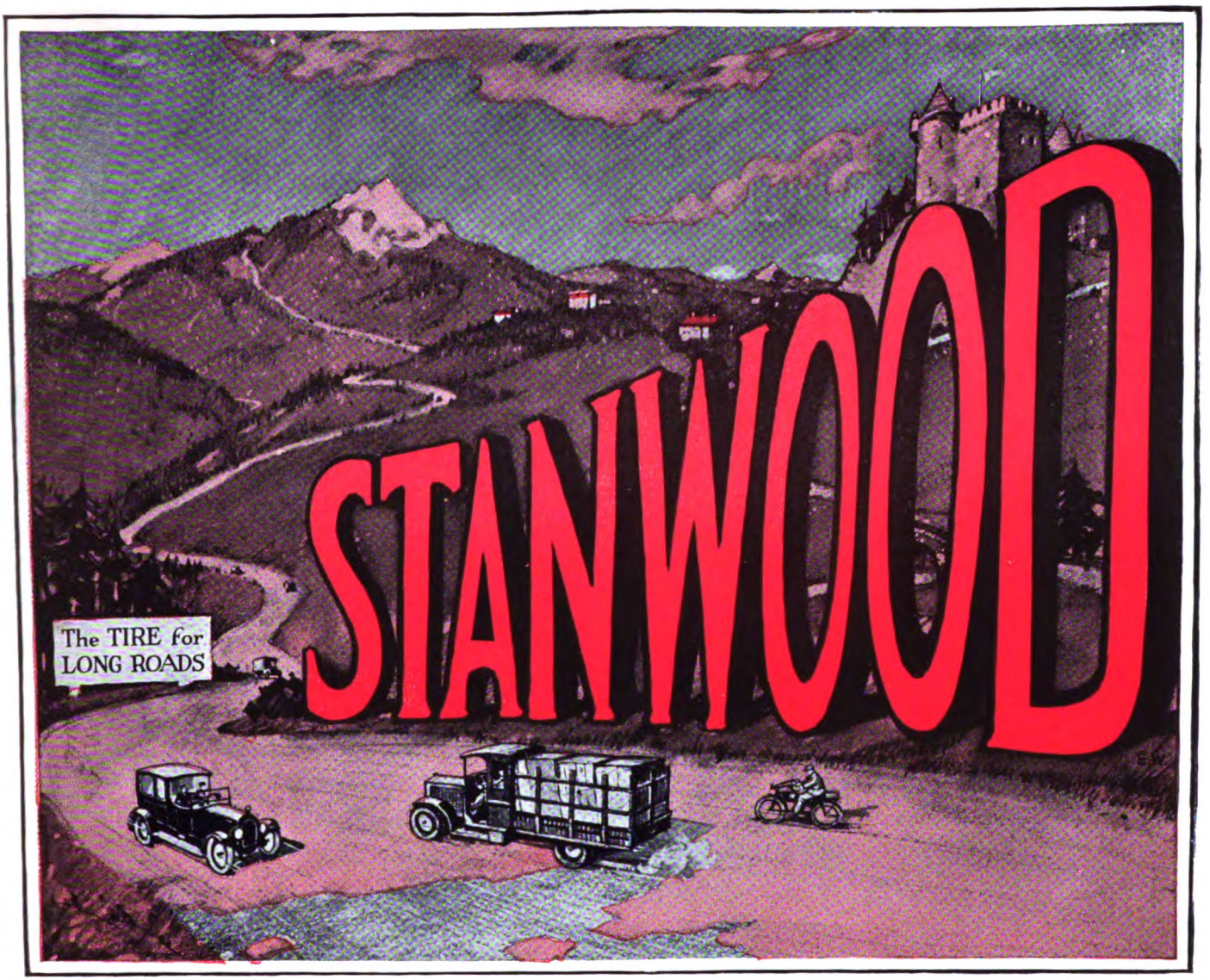

Cord Fabric and Truck Pneumatic

SETTING UP A NEW GAUGE OF TIRE SERVICE:

Mileage that is not only abnormally long but free from the common run of tire mishaps.

STANWOOD IS THE BIG WORD IN THE TIRE WORLD

A Conspicuous Advantage to high-class Distributors

Stanwood Rubber Company, Inc.

Executive Offices:

9 East Fortieth Street, New York City

Chicago Branch: 1712 So. Michigan Ave.

Plant: Elizabeth, N. J.

Note: Also STANWOOD Full Floating Tubes, Red and Gray, and complete line of Tire Repair Materials.

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A Prophecy and

For two years we have been telling you about American Six *balance*—and why its *balanced* construction makes the American easy to sell.

Today, this *unquestioned leadership in balanced construction* is the reason why American dealers are eagerly seeking more cars and more cars —in spite of rapidly growing deliveries.

It is why we have been forced to double the size of our factories at Plainfield, N. J., and to establish a second great plant at Greensboro, N. C., where the American will be built for distribution in the South alone.

American success has jumped demands for the Balanced Six to a point where already we have been forced to increase our production over 400 per cent.

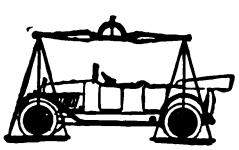
In 1920 this success will not only make new history for the American Balanced Six and its sales organization,

—but will create a positive sensation in the automobile industry — an industry whose rapid growth has startled the business world.

Balance—as *typified by the American Six* and correctly applied in the American Six *for the first time* in light weight car construction—

This will go down as the outstanding achievement of the year.

This is a prophecy!



Touring Cars
Roadsters
Sedans

AMERICAN MOTORS CORPORATION
Factories—Plainfield, N. J., and Greensboro, N. C.

The Balanced Six

AMERICAN

Miles & Smiles

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— a Promise

A few more weeks and a new "Smile Car" will be in the hands of American dealers.

In this *Greater* American, as in previous models, the weight is divided scientifically over each of the four wheels almost to a fraction of a pound. Each wheel carries a *proportionate* share of the load.

But in it you will find balance developed and refined to a point that is *entirely new* even to the Balanced Six itself. There is a fine adjustment of part to part—a balance not only in even distribution of weight but in fundamental design as well.

The results of this *balance* will astound you.

Real riding ease. A steadiness and smoothness on the road—around corners—over the rough spots —never before attained in a car of light weight.

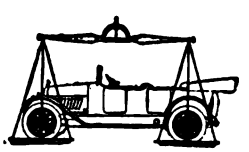
Greater economy of gas—oil—tires.

A tremendous reserve of smooth, dependable power.

All these are among the vital advantages that you will find developed to the greatest degree in this new "Smile Car."

And combined with them you will find a beauty of line—a perfection of finish—a heightened luxury that will make the American perfectly at home in company with the costliest car.

This is a promise!



THE BALANCED SIX

AMERICAN MOTORS CORPORATION
Factories—Plainfield, N. J., and Greensboro, N. C.

The Balanced Six AMERICAN Miles of Smiles

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This Axle Shaft Gets 5 Things Done to it on 1 Machine in 1 Minute

That's why we can assure you dealers that our production will keep abreast of your orders.

And there's another angle. Machines like this turn out axle shafts that are absolutely accurate in construction—the equal of the part they replace in every detail.

Every Spencer guaranteed product is marked with the name "Spencer" as an assurance to you that the maker stands back of the goods and back of *you* when you sell Spencer replacement parts to your trade.

Spencer quality is paid for by modern machinery and low factory costs—*not by you or your customers.* Spencer Guaranteed Products cost no more than any other replacement parts. Your jobber handles them —tell him you want "Spencer Guaranteed" next time you order.

Axle and drive shafts for all popular makes of cars. Connecting Rods, Radius Rods, Mufflers, Fans for Fords. Gilliam Take-Down Taper Roller Bearings for light cars and trucks.

THE SPENCER METAL PRODUCTS CO.

Factory: Spencer, Ohio

624 S. Michigan Ave., Chicago **16 to 24 West 61st St., New York**

Spencer Quality *Costs You No More*

THE SPENCER METAL PRODUCTS CO. SPENCER SPENCER, OHIO.

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SHIPMENT UNDER PRIVATE BRAND

"fortified against common tube frailties!"

HARDMAN
INNER TUBES

THE Private Brand tube is a sure business builder—*provided the merit of the tube itself is beyond question.* HARDMAN INNER TUBES today are the product of long years of sound progress coincident with the development of the motor car.

They have consistently kept ahead of standard tube manufacturing practice. In substance HARDMAN TUBES are fortified against common tube frailties. In service they give emphatic proof of this claim. Under Private Brand they are winners. Full floating stock exclusively.

High class Jobbers desiring further information on HARDMAN Celebrated TIRES, TUBES and REPAIR MATERIALS are invited to write:

HARDMAN RUBBER CORPORATION

Executive Offices: 9 East 40th Street, New York City

Chicago Branch: 1712 So. Michigan Avenue *Factories:* New Brunswick, N. J.

"Old as the Automobile"

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BRAENDER

We Go Ahead When You Go Ahead

IT happens that we are able to see some things clearly. One of them is this: that the growth of ***our*** business depends on something besides our own desire for progress. ***We*** can't expect to get very far ahead unless you—the retail distributors of BRAENDER TIRES—get ahead too. This means in simple language that BRAENDER TIRES have got to make good in two ways—in service with the customer and as a selling proposition with you. We don't claim to be all wise, but we have enough wisdom to see ***that*** point.

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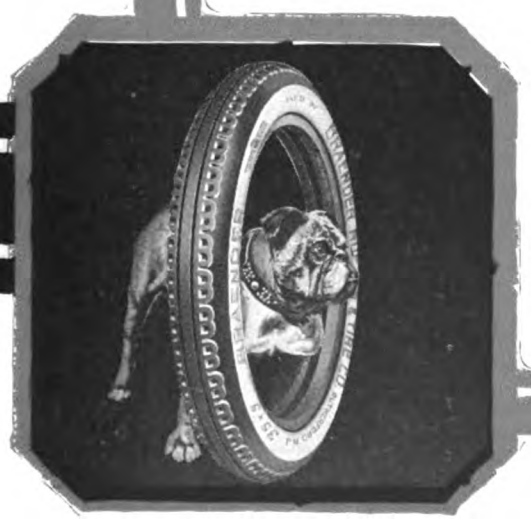
CORD AND FABRIC TIRES

Advertising To Begin At Home

IT seems reasonable to us that BRAENDER advertising and sales helps should be placed where they will do the most to help the dealer's business grow. For the prosperity of the Braender business is based upon the continued prosperity of Braender dealers. There you have the BRAENDER policy, and if it appeals to you we might mention that there is still some exclusive territory open.



BRAENDER RUBBER & TIRE CO.

Factory:
RUTHERFORD, NEW JERSEY, U. S. A.
Branches:
32 Broadway, New York
1352 W. Girard Ave., Philadelphia
64 East 14th Street, Chicago
131-133 8th Street, San Francisco

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1. Section pressing outward and upward.
2. Spring section of ring.
3. Lower section pressing outward and downward.

THE DEWITT G. SALTSMAN CO., New Haven, Conn.

BEST DIST. COMPANY, Kansas City, Mo.

NATIONAL AUTO SUPPLY CO., Chicago, Ill.

CRESSY BROS., 979 Woodward Ave., Detroit, Mich.

J. E. BENEDICT CO., 1212 Figueroa St., South, Los Angeles, Cal.

HARRY G. BOW, 715 Rose Bldg., Cleveland, Ohio.

B. & S. DISTRIBUTING CO., 209 Mass. Ave., Boston, Mass.

EXPANDING in width and diameter, the Wedge Rite Piston Ring snugly hugs the cylinder wall—at the same time completely fills the groove.

The two outer, soft gray iron bearing rings are pushed outward and upward by a wedge shaped inner ring of untempered spring steel making a permanent seal.

It makes ring rotation impossible, so that Wedge Rites adapt themselves to the shape of the cylinder walls.

The wedge construction takes up wear.

Install the Wedge Rite Piston Ring—the rings that put dollars back into the motorist's pocket that formerly went for oil and gas waste. Write for sales proposition.

The Wedge Rite Piston Ring Co.

PLATTSBURG :: NEW YORK

Montreal, Canada

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Chief Keokuk

Get This Message From Texas!

STRAIGHT from the shoulder—Mr. Distributor—from rough and ready Texas! Without any bones about it, The Anderson Rubber Co. of Dallas—will tell you.

> "After eighteen months handling this tire—we have one hundred and seventy-five dealers in the State and not one of them has registered a kick against Standard Four Tires."

"Service that pleases the customer," as one dealer puts it, "also pleases the dealers." Standard Four distributors can make their dealers an unusually profitable Quality Tire Proposition.

Our increased production now offers splendid opportunities to a few more distributors. Write at once for territory, terms and details on advertising and sales help furnished to Standard Four distributors.

Standard Four Tire Company

DEPT. H KEOKUK, IOWA

BRANCHES AT

245 N. PENNSYLVANIA ST. *Indianapolis*

342 WEST PICO STREET *Los Angeles*

"Chief of the Tire Tribe"

Standard Four Tires

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"Horse Sense"

Men with "horse sense" know that overloading a motor truck is like overloading their stomachs—both are distressing and neither habit is profitable.

What was probably the first theatre party to "ship by truck" was made up recently at Easton, Pa., for attending a matinee performance in New York. Twenty-eight women composed the party. The truck had been converted into an enclosed "carry-all" capable of seating thirty persons. The trip each way, a distance of seventy-eight miles, was made in a little more than four hours. It was so successful that another trip from Easton has been planned, and several nearby towns are planning community "ship-by-truck" theatre parties for the near future.

The City Council of Glasgow, Scotland, adopted the Traffic Truck after British, Continental and many American makes of trucks had been demonstrated and examined—"that means something"—the Scots are careful buyers.

The Traffic is the lowest priced 4,000-lb. capacity truck in the world. Built of standardized units.

Traffic Specifications:

Red Seal Continental 3¾ x 5 motor; ***Covert transmission;*** multiple disc clutch; ***Bosch magneto; Carter carburetor;*** 4-piece cast shell, cellular type radiator; drop forged front axle with ***Timken roller bearings; Russel rear axle,*** internal gear, roller bearings; semi-elliptic front and rear springs; ***6-inch U-channel frame; Standard Fisk tires, 34 x 3½ front, 34 x 5 rear; 133-inch wheelbase; 122-inch length of frame behind driver's seat;*** oil cup lubricating system; chassis painted, striped and varnished; driver's lazy-back seat and cushion regular equipment. Pneumatic cord tire equipment at extra cost.

Chassis **$1495** *Factory*

Traffic Truck chassis equipped with cab, hoist, steel dump body (painted and varnished), *no extras required,* **$1990** complete.

Notice to Dealers

It is Traffic policy to make direct connections in every city, town and village throughout the United States. Wire for territory you want and if open come to the factory and see the Traffic produced and perform.

Traffic Truck

4,000 LBS. CAPACITY

(Class's Factory)

$1495

"Aint it a grand and glorious feeling"

Form 1201

WESTERN UNION TELEGRAM

NEWCOMB CARLTON, PRESIDENT — GEORGE W. E. ATKINS, FIRST VICE-PRESIDENT

CLASS OF SERVICE	SYMBOL
Telegram	
Day Letter	Blue
Night Message	Nite
Night Letter	N L

If none of these three symbols appears after the check (number of words) this is a telegram. Otherwise its character is indicated by the symbol appearing after the check.

RECEIVED AT 2 Ra du 31 NL NL 3 ex 850-am

Stratton Neb Jan 22-1920

Traffic Motor Truck Corporation,
St. Louis, Mo.

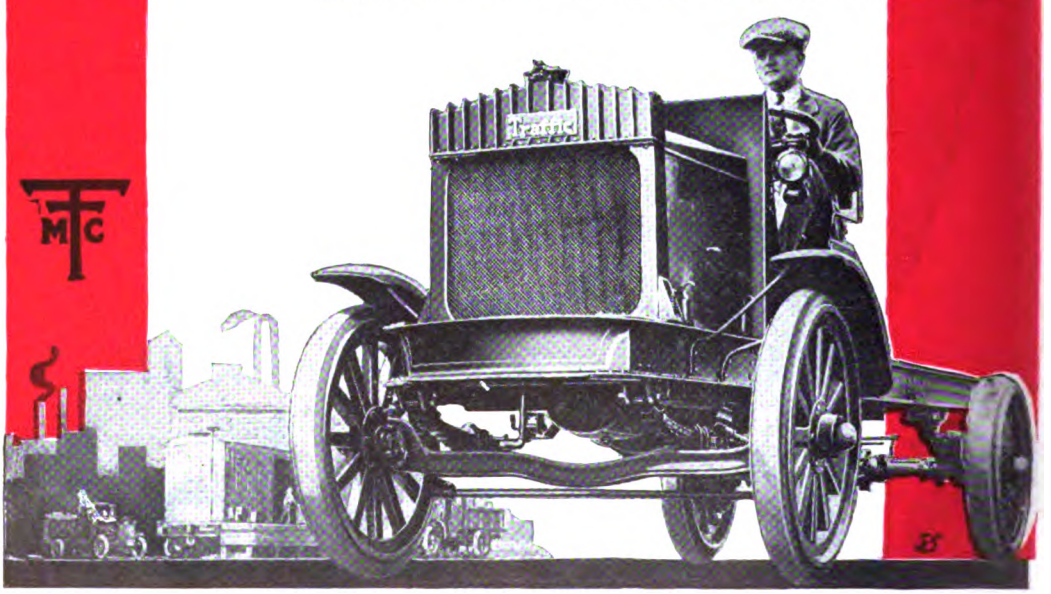
Over one hundred Traffics in service in eight counties here have proven that no other truck can compete with Traffics. We must have at least one hundred fifty.

Brumley Auto Co
By M.M.Brumley.

Traffic Motor Truck Corporation

ST. LOUIS, U. S. A.

Largest exclusive builders of 4,000-lb. capacity trucks in the world.



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tandard
DETROIT USA

for BUILDING CONTRACTORS

D of STANDARDS

Plainly—STANDARD Motor Trucks
ent, Quality Trucks—Built by one of
Strongest Motor Truck Organizations

re is the added Advantage of Com-
lization with Recognized Standard

lers Write for Territory.

OTOR TRUCK CO., Detroit, Mich.

and Complete Line of Standardized Quality Trucks.

dard MOTOR
Registered
MADE IN DETROIT USA TRUCKS

A GOOD INVESTMENT

the name implies"

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Greatly enlarged pro
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We are willing to ar
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merit of the Haynes.

Such dealers are invi

In writin

The Haynes Automob

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was invented, desig*

1893 — THE HAYNES

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THE GREAT DEMAND FOR THE HAYNES IS WHAT WISE DEALERS PREDICTED

IT IS the automobile dealer who has the greatest opportunity to know at first hand the trend of the public mind.

He comes in contact with the buying motorist; he gets definite information and does not theorize or allow his own wishes to color his views.

The automobile dealer—large and small—has been predicting the very thing that is now happening: the present enthusiastic demand for the new series Haynes.

It was to be expected—here is a car that has firmly established the four factors of character—beauty, strength, power and comfort; here is a car that is 90% Haynes made; here is a car with the always-praised Haynes engine.

Greatly enlarged production finds us still unable to keep pace with demand—a situation which every dealer knows is the most healthy sign of public approval.

We are willing to arrange for dealer representation in a few good territories, provided we can find the right type of energetic, progressive, permanent dealers whose reputation and responsibility indicate their standing with the public to be of the nature which accords with the merit of the Haynes.

Such dealers are invited to communicate with us.

In writing or wiring, Address Dept. 449

The Haynes Automobile Company, Kokomo, Ind., U.S.A.

The Haynes, AMERICA'S FIRST CAR, now exhibited by the Government at the Smithsonian Institution, Washington, D. C., was invented, designed and built by Elwood Haynes, in 1893.

1893 — THE HAYNES IS AMERICA'S FIRST CAR — 1920

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TO YOUR ADVANTAGE

SUCCESS in the tire business depends this year more than ever, on two prime factors—quality of the tires you sell, and your ability to get *prompt deliveries* of stock.

In these two all-important matters, Ajax Franchised Dealers are in a most advantageous position.

Ajax quality is of the highest order.

Production facilities have been greatly increased. An entire new plant is now under way. More Ajax Road King tires, more Ajax Cord, more Ajax Tubes and more Ajax H. Q. (High Quality) Tire Accessories will be produced than ever before.

The Ajax Sales and Service Franchise holds real opportunity. For details write nearest Ajax branch.

AJAX RUBBER COMPANY, Inc., NEW YORK CITY
Factories: Trenton, N.J. **Branches in Leading Cities**

AJAX ROAD KING

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Announcing the

NASH FOUR

NASH

THE Nash Four cylinder car is the finished result of years of planning, designing, testing and perfecting. It has the famous Nash Perfected Valve-in-Head motor and is a worthy companion to the Nash Six, being distinguished by the same marked characteristics of beauty, power, comfort and economy. It will be produced at a price made possible by volume production, in a second great Nash factory now building at Milwaukee. It adds further to the recognized value of Nash Dealerships and will be available to buyers late this coming summer.

THE NASH MOTORS CO., KENOSHA, WIS.

NASH MOTORS

VALUE CARS AT VOLUME PRICES

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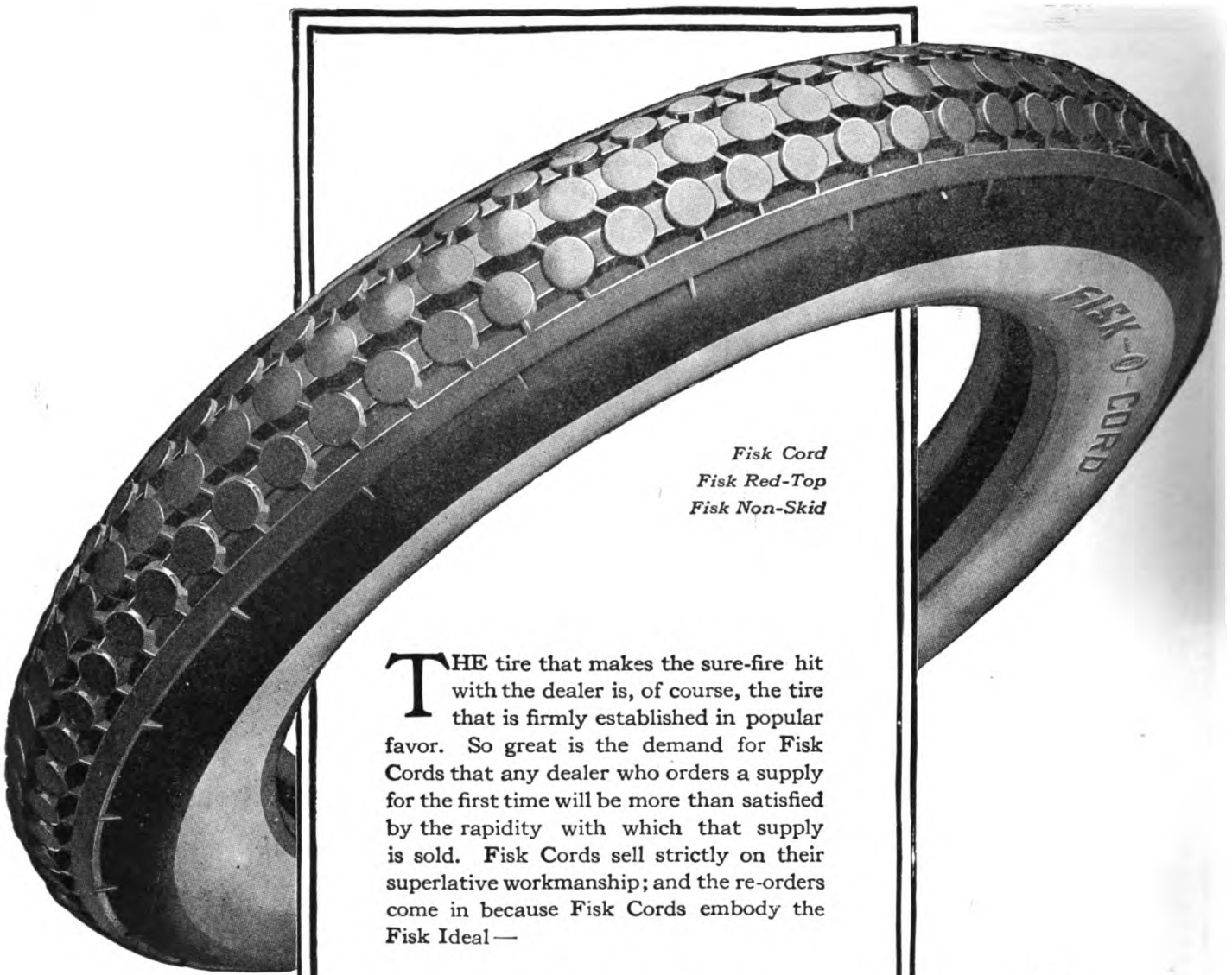

Fisk Cord
Fisk Red-Top
Fisk Non-Skid

THE tire that makes the sure-fire hit with the dealer is, of course, the tire that is firmly established in popular favor. So great is the demand for Fisk Cords that any dealer who orders a supply for the first time will be more than satisfied by the rapidity with which that supply is sold. Fisk Cords sell strictly on their superlative workmanship; and the re-orders come in because Fisk Cords embody the Fisk Ideal—

"To be the best concern in the world to work for; and the squarest concern in existence to do business with."

Next Time—BUY FISK

There is a Fisk Branch within quick reach of any dealer.

Time to Re-tire?
(Buy Fisk)

FISK CORD TIRES

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ɛPHENS

ɑlient Six

Pride in Ownership of

'alue—Its Greater Service

There is a justly deep-seated pride and joy in ownership of a Stephens.

For the Stephens contains so much which pleases and serves and satisfies.

Stephens hand-built bodies are mounted upon its wonderful riding chassis.

And in this chassis is the most powerful and most economical engine for its size in passenger automobiles.

It is no respecter of the grades of gasoline you feed it.

It burns all the gas and the lowest grades of gasoline without lessened performance.

And this engine makes the Stephens a salient all-around road-performer.

It gives the Stephens speed, endurance, flexibility, hill-climbing ability, and smooth-riding at their maximum.

Stephens owners know that no other car can give them all these Stephens features and advantages.

For this reason, you, too, will find the height of satisfaction in ownership of this car.

Arrange today to see and ride in the Stephens Salient Six.

'HENS MOTOR WORKS

MOLINE PLOW COMPANY

Office and Factories: Freeport, Ill.

E STEPHENS A GREATER SERVICE

tion "Motor West" When Writing to the Advertiser

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Locomobile—Mercer—Simplex

ANNOUNCE

a plan of joint operation to insure the most efficient use of their combined resources

HARE'S MOTORS

Incorporated.

(The stock of which is entirely owned by The Locomobile Company and Mercer Motors Company)

has been organized to direct and coordinate the production and distribution of these affiliated Companies

History

In October, 1919, Mercer Motors Company acquired the property of the Mercer Automobile Company.

In December, 1919, The Locomobile Company was organized to take over the property of The Locomobile Company of America; Mercer Motors Company receiving a substantial interest in The Locomobile Company.

In January, 1920, Mercer Motors Company absorbed the Simplex Automobile Company, manufacturers of the Simplex and Crane-Simplex cars.

Today Hare's Motors assumes the directing power of all these properties. Its function will be to see that in effecting the big increase of output already under way, and the rapid diversification of product for which these factories are being equipped, there shall be no waste of plant space or of effort in any respect.

Organization

Hare's Motors will be officered by these well known-men:

President—Emlen S. Hare, formerly Vice-President, Packard Motor Car Company.

Vice-President, in charge of Engineering Development—H. D. Church, formerly Chief Engineer Motor Truck Division, Packard Motor Car Company.

Vice-President, in charge of Production—Ormond E. Hunt, formerly Chief Engineer, Motor Carriage Division, Packard Motor Car Company.

Vice-President, in charge of Distribution & Maintenance—Henry Lansdale, formerly General Carriage Sales Manager, Packard Motor Car Company.

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Vice-President and Consulting Engineer—A. L. Riker, formerly Vice-President and Chief Engineer Locomobile Company of America.

Secretary & Treasurer—F. R. Hickman, formerly Treasurer, Locomobile Company of America.

Through the medium of *Hare's Motors,* Locomobile, Mercer and Simplex are welded together for purposes of operation and tremendously strengthened by each other's resources plus the directing brain power of the Hare's Motors staff. It is safe to say that the knowledge and experience of automobile engineering, production, and distribution in the quality field which is brought together by the combination of these executive groups is not equalled or even approached in any other organization throughout the length and breadth of the industry.

Purpose

To provide a complete assortment of highest grade passenger and freight transportation units.

In furtherance of this object, to increase materially and immediately the output of all plants under its control.

Standards

Hare's Motors is managed by men who know but one standard of quality and that the highest. The manufacturing practice of its shops will be the soundest known to American workmanship.

Ideals

In these momentous times a statement of ideals will not be out of place. The contemporary clamor for rights is submerging the emphasis on duties. An unprecedented zest for gain tends to obscure the fact that permanent gain comes only by way of obligation thoroughly fulfilled.

The Hare's Motors management intend that their Company shall succeed most by serving most.

They mean that it shall deserve the confidence, possess the admiration and receive the enthusiastic patronage of the American people by standing for all that is best in American business enterprise.

HARE'S MOTORS

Incorporated.

16 West 61st Street *New York City*

The Locomobile Co. Mercer Motors Co. Simplex Automobile Co., Inc.

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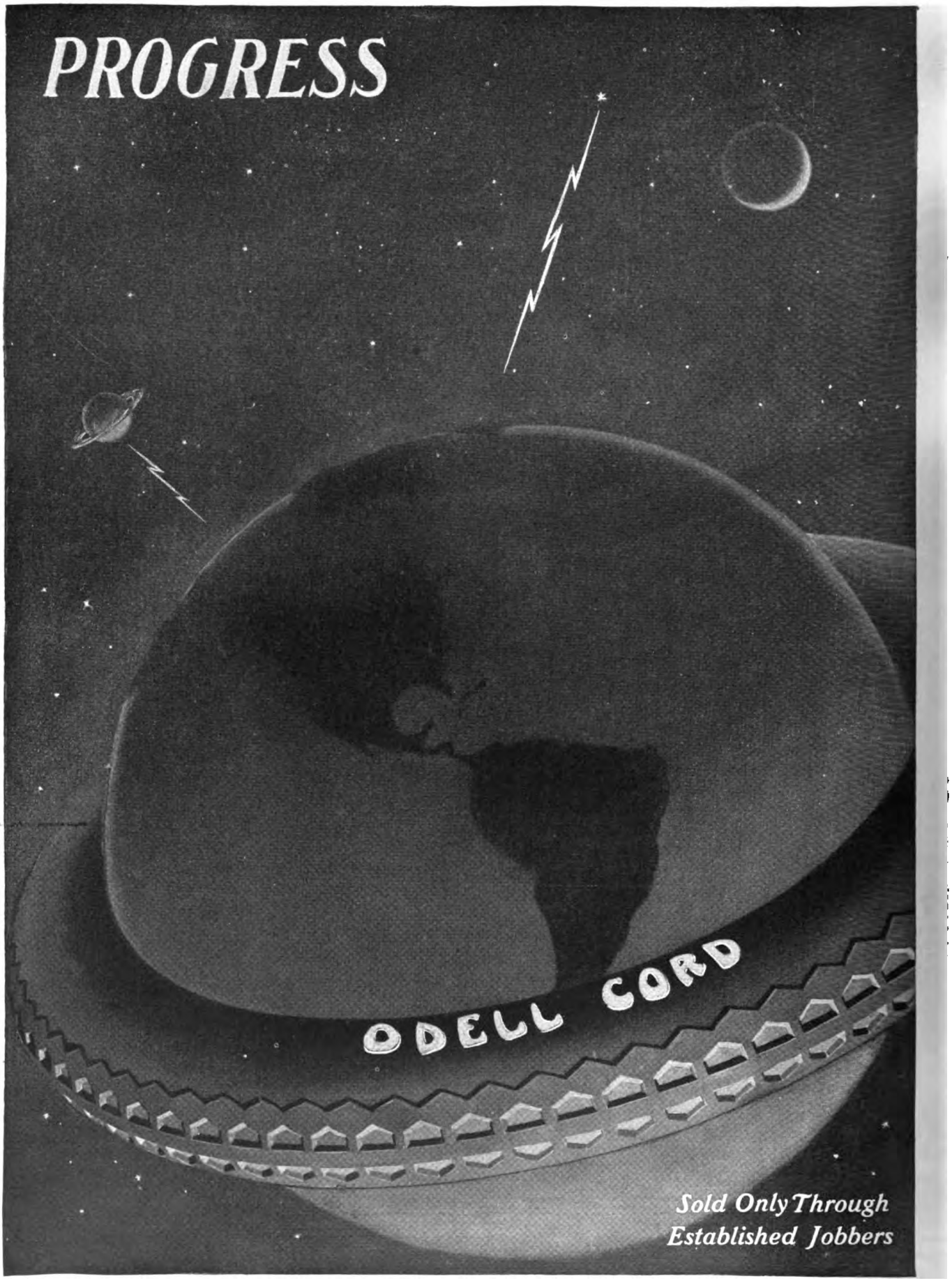

International India Rubber Corporation, South Bend, Indiana, U.S.A.
Manufacturers of ODELL CORD Tires and SOUTH BEND FABRIC Tires and Tubes
Please Mention "Motor West" When Writing to the Advertiser

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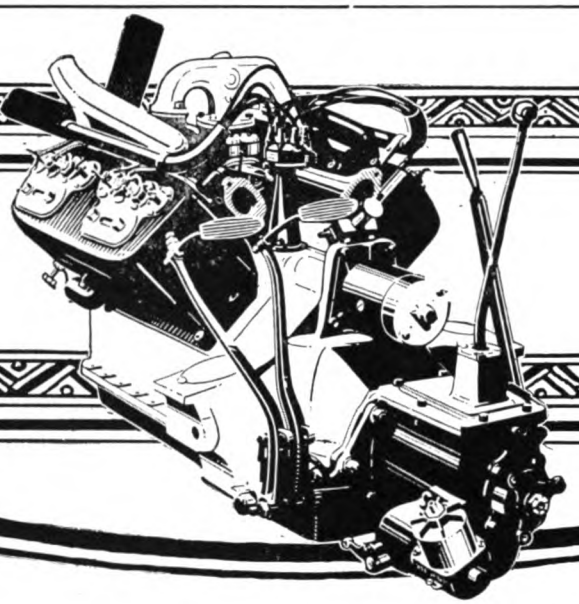
King Built



King Designed

KING

MOTOR PERFECTION

NOT a "stock" engine dropped into a frame, but a motor of King origin in every part, designed to operate in perfect harmony with its chassis.

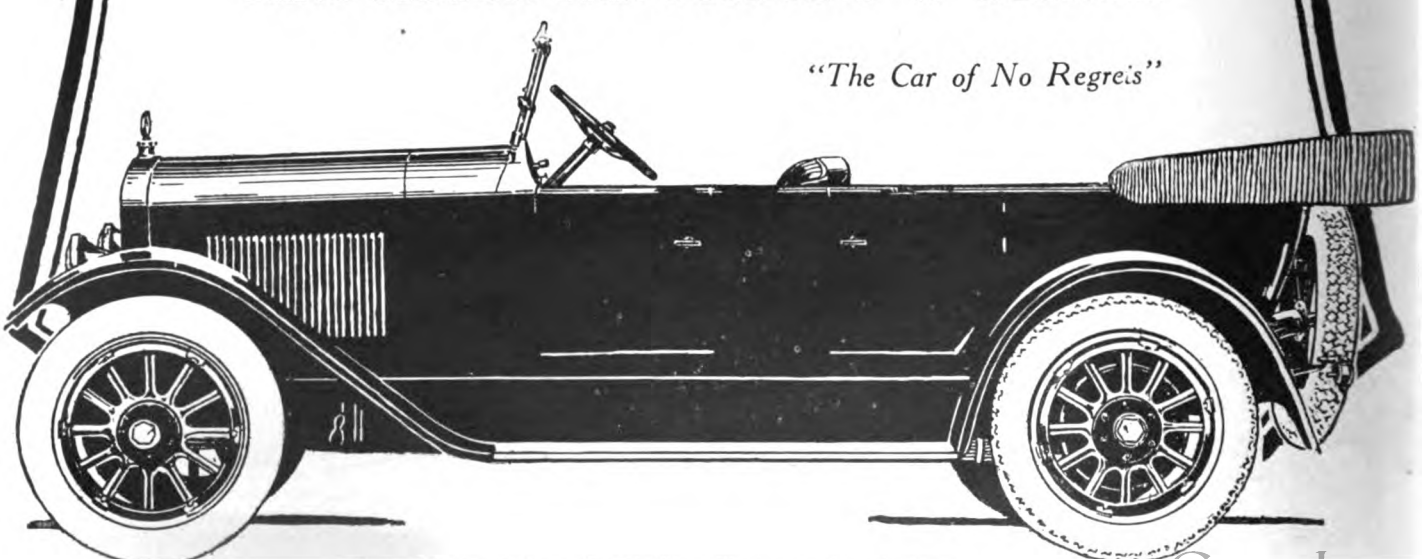
The "Eight" has *four* power impulses per revolution; the Six; *three*, and the Four, *two*. This continuous flow of overlapping power pulsations results in flexibility which practically does away with gear-shifting.

Quick "get-away," hills on "high," from a creep to express-train speed without touching a gear lever; freedom from vibration; silence; economy in fuel, oil and tires because of light weight; compact motor, meaning long body room; and engine accessibility—these are the principal reasons for King Eight success.

TOURING CAR—FOURSOME—LIMOUDAN—ROAD-KING

KING MOTOR CAR COMPANY :: DETROIT

"The Car of No Regrets"



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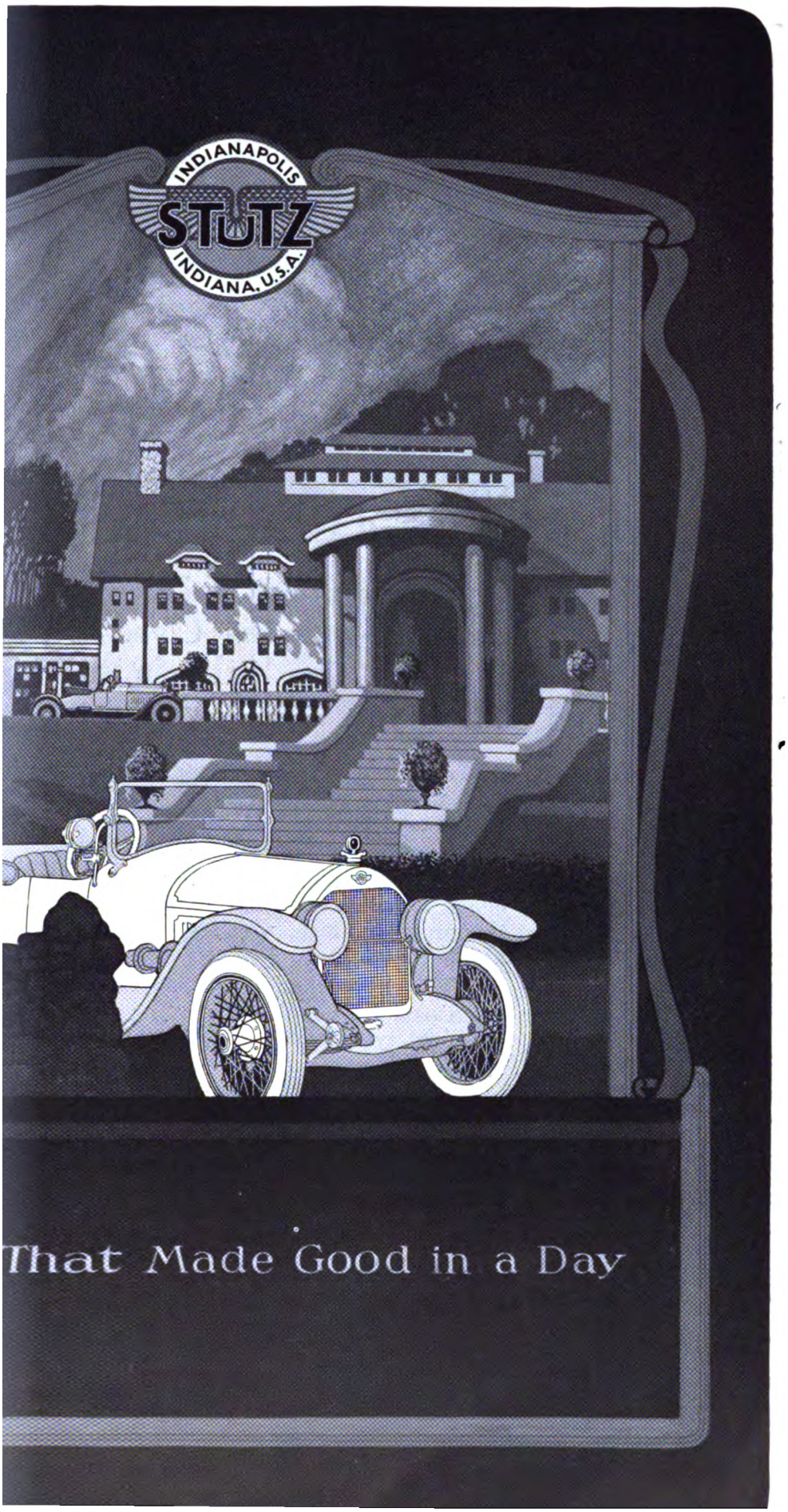

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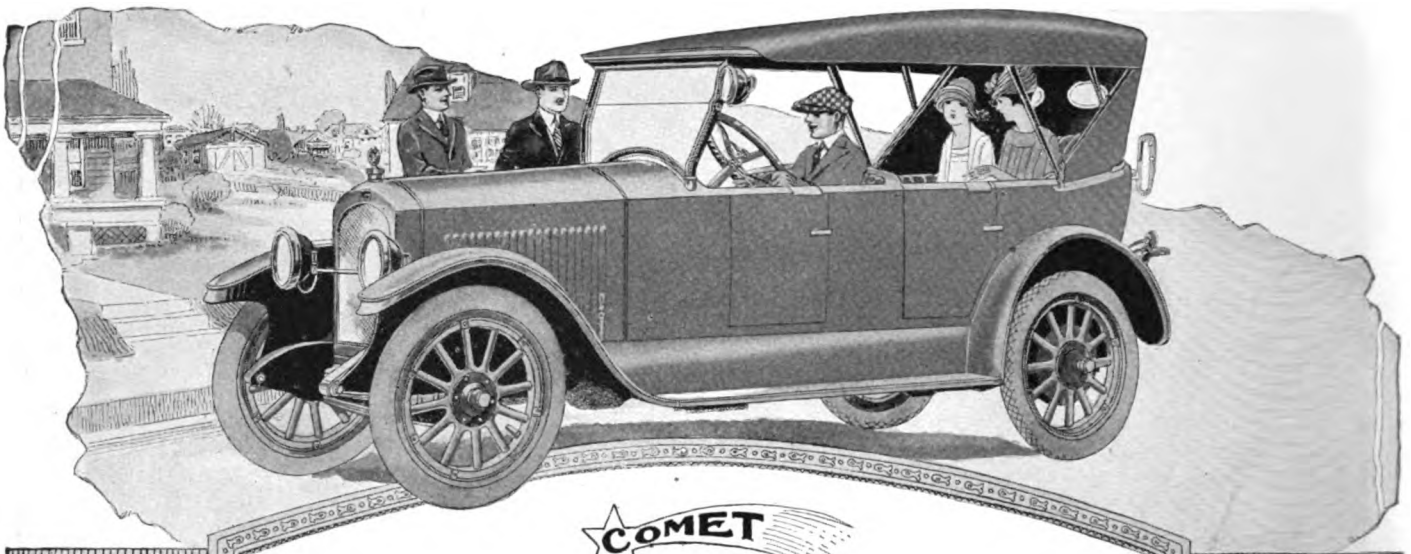

COMET

Off for a Country Demonstration

One demonstration---out in the country---with the *Comet* is better than all the talk in the world when you want to make the sale.

And while your prospect is listening to the soft, musical purr of the Comet 9-N Red Seal Continental Motor, as she climbs the steepest hills on high, whisper that delivery can be made at once.

That one phrase, with the demonstration, will clinch the sale. It'll bring a pleased expression to the prospect's face, which will grow more pleased as the Comfortable Comet waves its magic wand.

This straightline six is fleet and graceful---the same as a greyhound. It's economical to operate. It's light, yet strong and durable---and it's built by master artisans.

It's a car that your prospect will be proud to own---and one that you will be proud to sell.

DEALERS seeking better built cars—
that they can deliver NOW will find it profitable to investigate the COMET. Some splendid territory still open to well financed dealers.

Comet Automobile Company
821-69 Garfield Avenue,
Decatur, Illinois.

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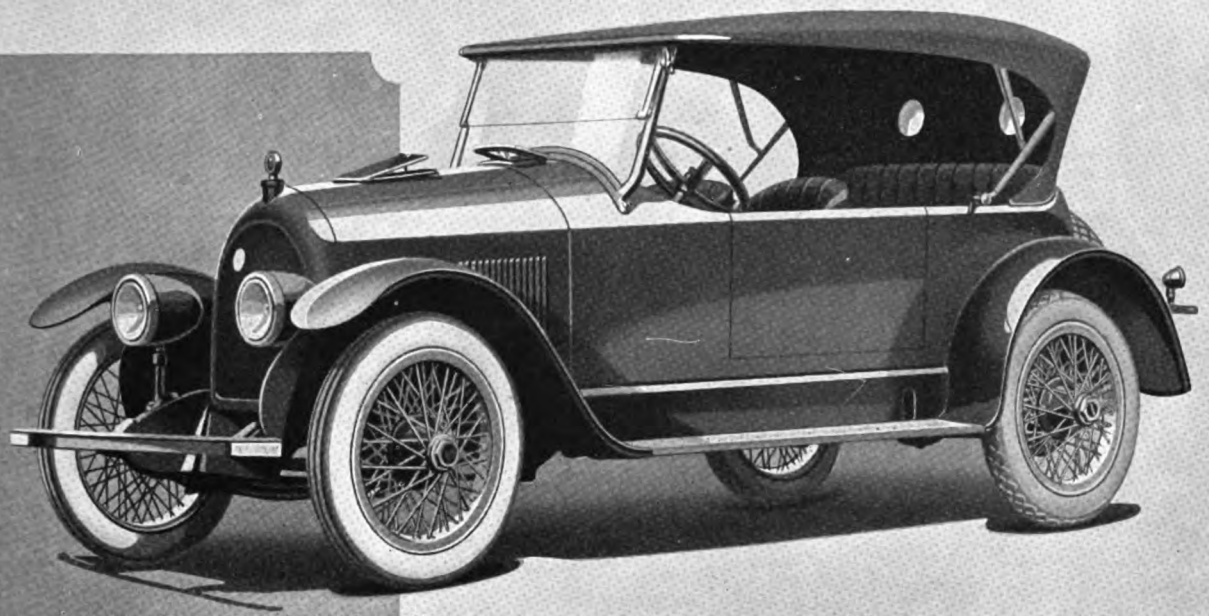
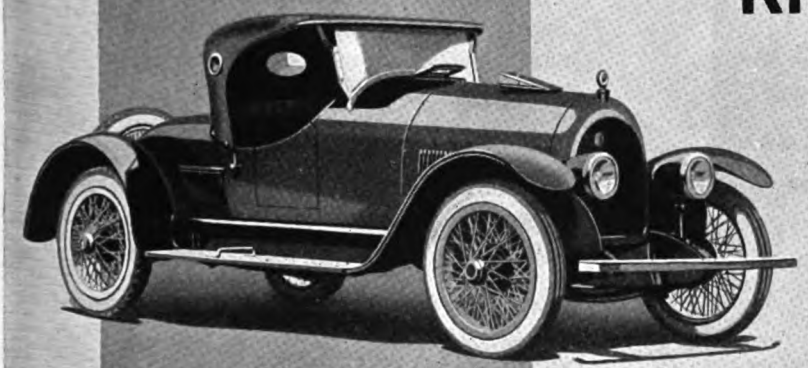


KISSEL Custom-Built Six



ELEGANCE in finish and appointments, the result of unmistakable quality. A bit of poetry went into the making—a splendid blending of colors that emphasize most faithfully the exclusiveness of the custom-built motor car—

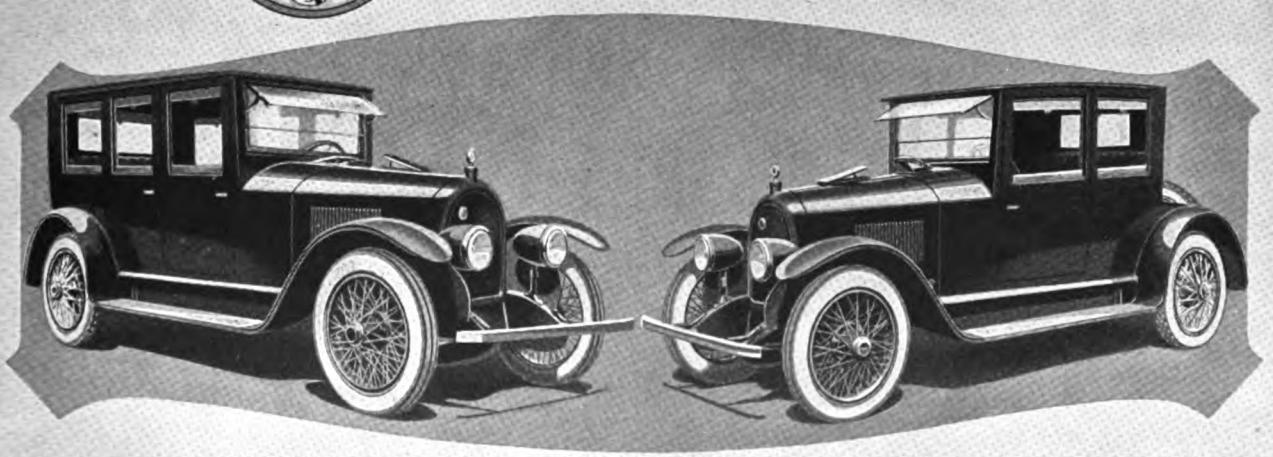
Simplicity is coupled with dignity—with originality held in leash by what is due utility, service and comfort.

Both open and closed models are mounted on the new Kissel custom-built chassis, equipped with the new Kissel custom-built motor.

Brochure "The Aristocrats of Motordom" on request.

KISSEL MOTOR CAR CO.
HARTFORD, WIS., U. S. A.

"Originators of the ALL-YEAR Car"



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In sets of three, $2.00.
Rockies West, $2.25.
Canadian price, $3.00.

In Rolls, 250 feet,
32c per foot.
Rockies West, 35c.
Canadian price, 40c.

This Dealer Tested White Stripe on his *"Burning In Stand"*

The story of White Stripe sounded too good to be true. That it was made specially for Ford service, that it had more cotton per square inch, that it was woven in a pattern for friction wear, that White Stripe treatment becomes soft but does not wash out in hot oil he couldn't believe.

"I'll test it," he said, and on his burning-in stand he tested White Stripe. He satisfied himself that White Stripe was all that we said it was, then he gave us an order.

"White Stripe will stand up under hard wear." That's what we claim for it—and that is what it is doing.

Ask any dealer selling it, or Ford owners who use it.

Your jobber can quote you—or write us direct.

Advance Automobile Accessories Corp.

56 E. Randolph Street, Chicago, Illinois

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Motor West

THE MOTORING AUTHORITY OF THE PACIFIC COAST

VOL. XXXII, No. 12 APRIL 1, 1920 $2.00 PER YEAR

IMPERIAL VALLEY WILL HOLD A SHOW

Rich Valley's Trade Body to Put on an Exposition of Wide Importance in El Centro, April 22-24.

The Imperial Valley Automobile Dealers' Association and the Automobile Trades Association will put on a big automobile show, April 22-24, at El Centro, in the Imperial Valley, assisted by the Automobile Club of Southern California, handling the publicity. Several Los Angeles and San Diego dealers have sent word that they intend to participate, and it is expected that San Francisco will be represented by some of its leading dealers. Negotiations with the Pierce-Arrow, Winton, Scripps-Booth, Auburn, Oakland, Anderson, Premier, Westcott and other agencies not yet located in Imperial Valley indicate that most of these concerns will be represented in the exhibits.

H. F. O'Byrne, president of the Automobile Dealers' Association, residing at Brawley, has named the following committees to take charge of the work of conducting the various activities pertaining to the bringing off of the show: Executive—Percy Echols, A. P. Williams, W. H. Windfield; entertainment—L. L. Hebert, "Curly" Brumbly, A. C. Parrish; advertising—J. W. Cass, J. B. Hart, C. N. Merralls; publicity—M. B. Towman, Fred Berry, Purl Willis.

April 22 is "Brawley" day, April 23 is "Calexico" day, and April 24, the final day, has been named as "Automobile Accessory" day. Cars will be on exhibit every day during the show and El Centro dealers will exhibit with all the other dealers.

Annual Show for Orange County.

The First Annual Orange County Motor Car, Truck and Tractor Show will be held at Anaheim, May 5-8, inclusive. In an elaborate and finely appointed show, housed in 33,000 square feet of space under two large tents, dealer members of the Orange County Automobile Trades Association will place their lines before the public.

Walter W. Biddick, head of the association, is manager of the show. Decorations alone will cost several thousand dollars. One tent, 100x260 feet, will house passenger car exhibits; the other, 100x220, trucks, tractors and accessories.

Prices for space, according to Manager Biddick, are as follows: Forty cents a square foot for cars, trucks and tractors; 60 cents a square foot for accessories.

Enthuse Over Yosemite Trip|

Through entries do not close till 6 p. m., May 1, for the fourth annual economy run, Los Angeles to the Yosemite, for the Camp Curry and Fred L. Baker trophies, and though entry blanks have not yet come from the American Automobile Association, lively interest prevails. Among the makes expected to take part are the Mitchell, Dort, Briscoe, Dorris, Templar, Hupmobile, Maxwell, Franklin, Overland, Stephens, King, Holmes Air-Cooled, Premier and Leach-Biltwell.

Cotton Exchange Organized.

The Pacific Cotton Exchange was organized in Los Angeles, March 29, with T. W. Devitt, president; M. P. Scott, vice-president; K. M. Turner, treasurer. Temporary offices will be in the I. W. Hellman Building and, due to the new New York daylight law, will open at 6 a. m.

F. A. Seiberling on Coast.

President F. A. Seiberling, of Goodyear, is in Los Angeles for the great convention called to help develop the resources of the Colorado River basin. Mrs. Seiberling is with him. They will remain a week.

Aero Club Meet Ahead.

The Aero Club of Southern California is planning a meet and exhibition to be held April 23 to May 3, in Los Angeles.

TRANS-BAY MOTOR TRUCK TRIP AHEAD

Alameda County Trade Association's Tour, May 17-22, to be Managed by Martland the Human Dynamo.

Dealers of the territory east of San Francisco Bay will hold the East Bay Ship-by-Truck tour during the week of May 17-22. The tour will be under the auspices of the Alameda County Automobile Trade Association and Robert W. Martland, Association manager, will act as train commander of the tour. Several very efficient speakers will give their services during the trip.

At a recent date 20 trucks have already been promised by dealers and the number is expected to be around 75 before the starting date. Much enthusiasm is already seen in towns selected for noon and night stops along the route. A visit of 75 trucks will be indeed a novel experience to the people of these towns.

The East Bay tour will be held during the national ship-by-truck week, during which the people of the entire country will be forcibly acquainted with the feasibility of shipping goods by motor truck. The East Bay trucks will have bodies to make hauling demonstrations to those interested and accurate cost records of each individual haul will be kept.

Tacoma Speedway Partly Burns.

Fire recently visited the Tacoma Speedway, destroying grandstand space to the extent of $85,000. The track is not damaged, however, and the great July 4th event will be held as originally scheduled.

Los Angeles Used Car Show.

April 10-17 the Used Car Dealers' Association of Los Angeles will hold a show at Praeger Park. More than 40 dealers have taken space. It was intended to have a 350-foot tent, but it is expected to use one twice that size.

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PORTLAND MAY BE GARFORD SEAPORT

Northern City's Advantages Scanned by Truck Company's Head While on Tour of the Coast.

Portland, Oregon, may be selected as Pacific Coast export headquarters for the Garford Motor Truck company of Lima, O., according to E. A. Williams, Jr., president of the company, who has been in Portland investigating that port's advantages as such a distributing point.

E. A. Scheu, general sales manager of the King Motor Car Company, was in Portland for the formal opening of the new home of the Rubin Motor Car Company, King Eight distributors for the Northwest, at Broadway and Hoyt streets, Portland. B. W. Rubin of this company is originator of a 52 weeks free service plan for owners that has interested the factory so much it is putting it into effect with all its distributors. The Portland building of the Rubin company is one of three to be erected in Portland, Seattle and Spokane.

Ralph S. Lane, national president of the Bearings Service company, was a recent visitor in Portland on a tour of the 26 branches the company maintains in principal cities of the country.

P. X. Johnson, of Portland, Judge Thomas F. Ryan, of Oregon City, and W. S. Hibbard, of Dayton, Ore., have acquired the Rex Motors Co. from August Junge, and with it the distribution of Traffic trucks for Oregon. Junge will continue to distribute Diamond T trucks.

Thomas Randall has taken the Oregon agency for the United motor truck.

W. C. Garbe, Inc., formerly the Oregon Motor Car Company, which has the Studebaker for Multnomah county, Ore., and the Master truck for the Northwest, has opened a Seattle branch for the Master truck. Temporary quarters are with P. E. Sands.

Bill Byrne, one of the best known motor car salesmen in Portland, has been made sales manager for the Twin States Motor Car Co., distributing Chandler and Cleveland cars.

F. P. Walbom and W. F. McKenney have formed the Brunswick Tire Co. to distribute Brunswick tires in Multnomah county.

Oregon and southwestern Washington distribution of Hewitt tires has been taken by J. H. Ainscough, of the States Auto & Tire Co., distributors also of Kleiber trucks.

W. H. Banes, distributor of Peerless piston rings in the Pacific Northwest, has taken O. C. Potter, formerly in the truck and tractor business, into partnership, forming the Motor Equipment Co. to handle Peerless rings in Oregon and Washington.

The West Coast Distributors' Corp. has obtained the exclusive agency in the Pacific Northwest for Hassler shock absorbers for Ford cars and have opened a Portland branch with E. E. Flint manager.

The Karavan Co. has been organized in Portland, Ore., to manufacture a heavy-duty truck, the Karavan. The factory and assembling plant is at the Hesse-Martin Iron Works in Portland. The Karavan is an assembled truck, but such parts as frame cross members, radiator core, aluminum castings and hub cap are made locally. Units used in the truck are Buda engine, Brown-Lipe transmission and clutch and Sheldon axles and worm drive.

E. D. Van Dersal, for ten years a motor car and truck salesman, dealer and distributor in Portland, is president of the Karavan Motors Co. Other officers are Fred Hesse, of the Hesse-Martin Iron Works, vice-president and consulting engineer; Whitney L. Boise, secretary; and George H. Peters, engineer in charge of construction.

Several of the trucks, having no specific tonnage rating though made for heavy duty work, have been built and are in operation.

Archer & Wiggins, automotive accessory jobbers and retailers, have purchased a quarter block at Park and Couch streets, on which they will put up a large building for their exclusive use. When they occupy the new building, they will change their sales policy to handle a jobbing business only.

The Willamette—Oakland Co., Oakland six dealers for Multnomah county, have removed to new quarters at Broadway and Flanders.

H. W. Denis, organizer of the Denis Motor Co., which handles the Sayers, Jackson and Commonwealth cars, has sold his interests in the firm to F. W. Mogan and associates.

C. W. Phillips, formerly of Seattle, is the new general manager for the Lewis E. Obye Motors Co., which handles the Standard Eight, Paterson six, Lorraine and Monroe fours.

S. V. W. Peters, formerly of Seattle, has purchased an interest in the Portland Motor Car Co., distributor for Packard and Nash cars and trucks, and has been elected vice-president and general manager.

INDICATIVE OF THE VIM PUT INTO THE PORTLAND SHOW.

The way one exhibitor, the U. S. Manufacturers Sales Co., Portland, "went at" the recent show in that city is indicated in a photograph of its selling force at the show. The company is Pacific Coast distributor for, and also manufactures, several nationally advertised automobile accessories.

Rain Plenty After All.

In the night, a refreshing rain, a veritable shower of liquid diamonds, that tumbled and splattered over everything. Next morning, a brilliant sunrise; ground clean, green things greener. As one chap rode to work he looked north across a tree-fringed lake, over the nearby hills to the panorama on the range beyond. Down town everybody was saying: "Did you see the snow? Some sight, eh?". A Chicago visitor to "Motor West" office said: "Most wonderful thing I ever saw." In the morning paper the temperature table said: "Chicago, 8 degrees; New York 16."

The rains have definitely stopped, for the present, all fears of danger to Pacific Coast soil production.

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NEW AGENCIES IN SEATTLE INCREASE

Kissel, Maxwell and Premier Lines to Help Accelerate Business in Puget Sound Metropolis.

Three new automobile agencies, all for well known lines, have recently been announced in Seattle.

Frank Waterhouse & Co. have obtained the state distributing rights on the Kissel car and the Kissel truck. This firm also handles the Marmon.

The Maxwell agency has been taken by the William F. Patten Motor Co. Patten has been for years distributor for the Chalmers, which car is built by the same factory organization as the Maxwell, hence his taking of the Maxwell agency for King, Kittitas, Clallan and Island counties makes for an ideal combination.

Three carloads of Maxwells are on hand for immediate delivery, Patten reports, and more are en route from Detroit.

The third new agency is that for the Premier car, taken for the state by the J. W. Rogers Motor Co., a Walla Walla firm, which has opened Seattle headquarters at the former home of the Great Western Motors Co. at Boylston Ave. and Pine St.

Another change is that in Stephens Salient Six distributing connections, the Cascade Motor Sales Co., of Seattle, being elevated to the rank of Western Washington distributor with the retirement of F. U. Bliss, president, owing to illness and taking of management by Don E. Ahrens, president also of Ahrens & Ahrens, Stephens agents in Spokane.

The Seattle firm, according to Ahrens, will erect a new building on the "row," to contain at least 14,000 square feet of space. The company's allotment of cars from the factory has been materially increased, contracts this year calling for 375 cars for Seattle, 400 for Spokane, later in the spring to be increased to 500 for Seattle and 450 for Spokane.

Returning from the Chevrolet assembling plant at Oakland, Cal., W. S. Dulmage announces he has been unusually successful in his plea for more cars. It will be but a short time before Baby Grands and 4-90's are at hand in Seattle for immediate delivery. California dealers, Dulmage found, are behind on deliveries, but the Pacific Northwest will be well taken care of, the factory assured him.

Ninety Cleveland cars have been shipped in as many days by the North Coast Automobile Co. to its out-of-town dealers recently, but the Seattle firm is still besieged by wire, long distance telephone for more, more cars. Present indications are that they will be fighting along the line of supply versus demand all summer.

The Pilot Six dealers, the Stewart Motor Co., have recently received four carloads of cars; the company is building up a Northwest distributing organization composed of a few sound, active dealers.

The demand on the Paige factory, states the Great Western Motors Co., is still above its maximum output, but relief is close at hand for the eager buyer and the harassed dealer.

Discontinuance of the Maxwell agency was voluntary, announces H. P. Grant, head of the Seattle Automobile Co., Chandler sales now running at a volume that compels their entire attention. Chandlers will soon be arriving faster, two carloads having been recently unloaded.

Pilot, Maxwell, Oldsmobile and Lex-Sedan cars and Acason and Day-Elder trucks are some of the lines upon which prompt delivery is promised. New individual models seen for the first time locally include the Pilot touring car, roadster and coupe, Templar touring roadster, Peerless four-passenger sport model and the Oakland 34 C.

The Roesch Motor Co. has been signed up to take 350 Stewart and 250 Atterbury trucks to sell in the three Northwestern states as a result of the recent show-time visit of Edward Roesch to the East. The company has moved to a new location, Third Ave. and Bell St.

During the first two weeks of its Western Washington dealer, placed career the Diamond T Truck Co., new contracts for 16 trucks.

SPRING IN COACHELLA VALLEY.

When you come to the Coast, be sure to drive from Los Angeles to Riverside, about 65 miles. If it's springtime, go on about as far again, till you're between the San Jacinto and San Bernardino ranges. The trip from Palm Springs puts even a hard-headed business man in a state of pure joy, while following the winding road around the mountains, into Coachella Valley. The dates, grapes, spring onions and other eatables galore, are taken for granted—but the climate; the magenta colored carpets of wild verbena, stretching in vast patches as far as one can see; acres of primrose, and as a border the coreopsis, the entire width of the valley; these and scores of other wild flowers make an indescribable panorama. Those who have lived many years in the Coachella say the gorgeous picture this spring beats anything they have ever seen, there or elsewhere. Remember—colorings are richest in early morning or late afternoon.

What has become of the old-fashioned hitching post?

S-B HAS 18 AGENTS IN INLAND EMPIRE

Brewer Motor Car Co., Spokane, Adds to List of Scripps-Booth, Cole and Truck Device Dealers.

The Brewer Motor Car Co. has added another Scripps-Booth dealer to the Inland Empire list, bringing the total to 18. Seven associate dealers handle Cole cars through the Spokane agency, and 42 dealers distribute the Brewer truck attachment, which converts a passenger car into a truck.

The Inland Empire distributing agency for the Mason line of passenger car and truck tires has been secured by the Spokane Paper & Stationery Co. The new line will be introduced in Spokane about the first of March. The company is to handle the tire through the present sales force and equipment, and will maintain jobbing, retail and service departments.

Chester B. Hillsbury, two years Spokane manager of the Kalispell Flour Mills, has resigned to accept the presidency of the Northwest Highway Trailer Co., of Spokane.

The Premier Six, a new car to Spokane, made its debut in the Inland Empire. It is shown by J. W. Rogers of the Rogers Motor Car Co., Walla Walla, who has been alloted the distribution for the entire state.

Forty Ford dealers met in Spokane in convention during the automotive show

Rantz & Halstead have taken the distributing agency of the Signal truck in Spokane.

To Distribute Titan Batteries.

Announcement has recently been made by the Western Electric Co., of Los Angeles, Cal., that it is ready to distribute the Titan storage battery in a wide territory embracing Southern California, Arizona and Esmeralda, Nye and Clark counties, Nevada. Acting as wholesalers they will appoint service agents. The Titan is manufactured by the General Lead Batteries Co., of Newark, N. J.

Andrews to Build A-1 Tops.

John P. Andrews, formerly owner of the Pacific Auto Top Co., Seattle, has opened an A-1 top-building establishment in Los Angeles, at 2033-35 West Pico St., where he is taking care of the most exacting kind of trade. While commercially Mr. Andrews was well satisfied with the Puget Sound country, his personal inclinations southward were too strong to resist.

Save money to create your job. Save more money to perpetuate your job.

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AGENCIES SHIFT IN LOS ANGELES

Several Automobile and Motor Truck Representations Change, Mostly on Well Established Lines.

Several new car and truck agencies have recently been announced in the Los Angeles field, the majority of them representing the shifting of distributing rights on well-established lines into the hands of new dealer firms.

Local retail distribution of the Oakland Sensible Six is now under new control, H. C. McVey, for several years Los Angeles retailer, disposing of his interests to the Oakland Sales Co., headed by E. O. Holley. The sales rooms at 1027 S. Olive St., for ten years identified with Oakland sales, will be continued, as will also the McVey policies, it is announced.

According to Holley, there has not been during the past year any such thing as "immediate deliveries" on Oakland cars; however, he has information that before many weeks the supply will approach constant.

The Premier car is now represented by the F. O. Renstrom Co. for Southern California; they recently received the largest shipment of models seen on the Coast since before the war.

The Jones Six has been seen before in the Southland, about two years ago. It is now represented by the Jones Six Motor Co., 3024-28 S. Main St., headed by W. L. Shobe, well-known in the Sacramento dealer field.

The Moon Six agency has been taken by the California Motor Co., temporarily located at 1115 S. Olive St., which intends to build a new sales building in the automobile district. The local firm is a unit in a Coast-wide organization which operates branches in four Western states.

Occupying the same quarters as the former S. F. Seager organization, E. A. Maginnis, under the firm style of E. A. Maginnis, Inc., is now local Jordan dealer, having bought the agency rights from S. F. Seager and E. A. Clark, who until recently composed Seager, Clark & Co., 1400 S. Figueroa St. E. A. Maginnis is one of the best known automobile men in Southern California.

The agency for the United States truck, built in Covington, Ky., has been secured by the W. L. Cleveland Co., machinery and supply firm located at 209-11 N. Los Angeles St.

The name of the Pacific Motors, Inc., distributors of the Elgin Six, has been changed to the Mark Motor Co., 1355 S. Flower St.

E. R. Carpenter, former manager of the Los Angeles Studebaker factory branch, has joined Maxwell & Hoffman, dealers in Los Angeles, as vice-president and general manager. A. W. Maxwell, also well known among automobile men in the southern part of the state, has succeeded Carpenter as local branch manager. Maxwell & Hoffman plan to occupy their fine new building on S. Figueroa St. near Pico within a few weeks. Three times as many Studebakers were sold in Los Angeles this year during a recent three months' period as during the corresponding period of last year.

A number of dealers are able to promise immediate or very early delivery, among them those representing Dixie Flyer, Velie, King, Metz, Moon Victoria, Case, Haynes, Holmes, Crow-Elkhart, Columbia and Dixie.

New models of well-known lines in the local field are the Lexington sport model; the Elgin Six sport model; the Apperson sportster, touring and sedan; Premier four-passenger closed model; Standard Eight sedanette; and King Eight limoudan.

LEMUEL LOOSEHEAD SAYS—

One advantage a tractor has over a hoss, fleas 'n' flies don't bother it none, by ginger.

One o' the wust miseries I know of is to git stalled 'n' hike two miles for gasoline, 'n' then find the tank full 'n' all the trouble at a plug terminal.

We know a heap sight more about feedin' the innards of our machines than ourselves.

I know a feller had a lug come loose. He kep' a-goin'—all he knew wuz, there was a noise. On the second turnover it swung out and stripped off a control lever and a fender.

Washin' the machine in the sun may dull the finish, but some folks is so dern keerful to keep the color on they never wash the car at all.

New models of the Columbia Six line have arrived recently for J. V. Baldwin, new distributor, who announced recently that seven dealers had already been signed up and an initial order put in for more than 200 cars; all before the first shipment of "Gem of the Highway" cars reached the Coast. This consisted of 16 carloads of Columbias. Factory promises are that Baldwin's territory will receive a liberal allotment.

Cars and affairs are moving fast with Warner Motors, Inc., new Mitchell dealers, states George W. Franklin, manager; they will occupy their new building at Twelfth and Figueroa Sts. about June 1st and now have cars for delivery.

Larger territory for the Haynes car is announced by Walter H. Fisher. Since the retirement of C. H. Haynes, factory branch manager at San Francisco, Fisher's territory has been expanded to include the entire southern half of the state.

Arizona has been added to the sales field controlled by Lyon C. Buxton on the Stevens-Duryea . When production justifies he will appoint dealers in the larger Arizona cities.

Lexington Minute-Man Six cars have lately arrived in large shipments for the Calres F. Kaar Co., but they find it difficult to keep cars on the salesroom floor for mere display purposes.

Betokening the favor shown Chandler cars, Floyd Manges, salesman for W. P. Herbert Co., sold five Chandler cars to five different purchasers in one day recently, this being the first time in Chandler history in Southern California that the feat was performed.

Among the motor truck dealers, R. C. Klepper, of the Bethlehem Motors Co. of Southern California, announces that since they took local distribution last June sales have run 216 per cent over allotment, placing the Los Angeles house third in the United States in standing with the factory, surpassed only by Chicago and New York.

In addition to their large new factory at Burbank, the Moreland Motor Truck Co. will have a large city sales and service organization in Los Angeles. At Twenty-fourth and Main Sts. a well-equipped building will be erected, fronting 220 feet on Main and 165 on Twenty-fourth.

An Automobile for Railroads.

The new $200,000 plant of the Pacific Car Building Co., of Sacramento, Cal., to produce a light weight motor car to run on short haul railroad lines, is now in process of building. Located on the Twelfth St. road the main building will contain 97,000 square feet of floor space, equipped with the most modern car building machinery. The railroad motor car was the invention of the late S. D. Rogers, an engineer.

Valley Cars Increase Fivefold.

Among the San Joaquin valley counties of California first place in cars owned is held by Fresno county, then come Kern, Tulare and Kings. These four counties combined show a striking growth, in 1914 having a total of 10,286 cars, in 1919, a total of 53,117. Six years ago Fresno had 4,483, now 25,600; Kern, 2,521, now 11,659; Tulare, 2,412, now 11,483; and Kings, 870, now 4,375.

H. O. Harrison Co. Robbed.

Cracksmen recently obtained $5,000 in currency and securities from the safe of the H. O. Harrison Co., distributor of Hudson and Essex cars, in San Francisco.

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NORTHWEST PLANS AD CLUB CARAVAN

Trip to Stockton Convention to be Featured by Goodyear Idea which Presages Pioneer Routes.

With the proposal made, a few weeks ago, that all Pacific Northwest advertising clubs join in a motor caravan tour down the Pacific Highway to the convention in Stockton, Cal., May 23-28, of the Pacific Coast Advertising Clubs' Association, the Portland Advertising Club started something that has grown far and away beyond the scope originally planned.

Not only have other Northwest clubs, including those of British Columbia, taken it up with enthusiasm, but now the War Department has officially accepted an invitation to enter units of the Motor Transport Corps in the run. On top of that George Bellis, new Pacific Northwest branch manager for the Goodyear Tire & Rubber Co., has announced that his company will enter a truck in the caravan, with the first load of raw rubber for the new Goodyear factory at Los Angeles. The rubber will be loaded at Portland from a cargo arriving from Sumatra.

In connection with this announcement Mr. Bellis let it be known that the Goodyear Company has plans in mind of great importance to the Pacific Northwest and the Coast. These include establishment of three fast pneumatic-tired truck express runs, similar to that from Akron to Boston, on the Pacific Coast. One of these runs will be from Los Angeles to Portland and Seattle. Another will be from Seattle to Spokane, and a third from Spokane to Lewiston, Idaho.

These truck lines will not solicit nor carry freight or express in the ordinary sense. The service will be confined to Goodyear products. The real importance of the idea lies in the fact that it will be a sort of pioneering project to determine the advantages, limitations and possibilities of truck express competing with the railroads over long hauls.

To return to the caravan. It is scheduled to leave Portland, after being joined there by motor car delegations from Seattle, Tacoma, Spokane, and Vancouver and Victoria, B. C., for Stockton on May 19. One main purpose will be to demonstrate that despite construction work, the Pacific Highway is in good condition for tourists between the North and California. The caravan will proceed by easy stages to Stockton, making the run in not less than three days, possibly 3½ days. W. P. Strandborg of the Portland Ad Club is chairman of the caravan committee.

Cars entering from Portland will have to be limited to 50 or 60 because there are not hotel accommodations along the route to look after more than 200 to 250 persons in such a caravan. The program calls for a side trip to Yosemite National Park, and return to Portland about June 1.

Middleton Adds to Kelley Staff.

Ray T. Middleton, vice president and director of sales and advertising for Kelley Metals Co., of Chicago, Detroit and Los Angeles, announces these additions to the sales staff:

C. G. Germaine, western representative, with Chicago as headquarters. He had represented the Standard Welding plant of Standard Parts Co. in the western territory.

RAY T. MIDDLETON,
Vice President and Director of Sales and Advertising for Kelley Metals Co.

S. C. Bohannon, Indiana representative, headquarters at Indianapolis; also representing Hartford shock absorbers, Boyce moto-meters, and Kellogg pumps.

M. E. Simpson, northwestern representative, headquarters in Minneopolis. He formerly was general manager of Minneapolis Steel and Machinery Co., also Toro Motors Co., manufacturer of Bull tractors.

G. L. Moscovics a Coast Man.

George L. Moscovics, for the past two years advertising manager for the Mitchell Motors Co., of Racine, Wis., has come West and now is promotion manager for the Frawley Motor Co., of San Francisco, Mitchell dealers. Sixteen years of experience in all angles of the automobile industry lie behind Moscovics. He signed the contract to help spread the gospel of Mitchells when J. W. Frawley visited the Racine factory a few weeks ago.

BAY CITY OWNERS IN FIGHTING MOOD

Automobile Association Will Battle Proposed Horsepower Fee for Cars Used for Pleasure Only.

Plans to vigorously oppose the ordinance fathered by the finance committee of the San Francisco Board of Supervisors to impose an annual license tax of 10 cents per horsepower upon users of motor vehicles for pleasure only, for the privilege of using the streets of the city, are being made by the California State Automobile Association.

The expense to motorists is already considerable, and while the additional charge would not be very much, the additional annoyance and attention to the detail involved in securing licenses, it is pointed out, would be a further burden and the amount of net revenue produced would be inconsiderable after the expense of handling these licenses had been paid by the city. Much additional service would be required for the purpose of issuing the license, keeping the records, collecting the moneys and generally enforcing the law.

Probably there are not more than 18,000 motor cars in the city used exclusively for pleasure, and the average annual license tax would not be over $5 per year. The net revenue would not pay for the trouble and dissatisfaction which such a law would cause. Furthermore, there is a legal question involved which makes the validity of any such an ordinance doubtful. The supervisors have authority under their police powers to enforce a license tax upon the conduct of various businesses for regulation purposes. The operation of pleasure vehicles is not a business and the avowed purpose of the proposed ordinance is to produce revenue and not to affect regulation.

The amount collected from motorists in fines for violation of the Motor Vehicle Act and the city ordinances is very small, and undoubtedly the entire amount of the proposed tax could be readily secured by fines if the laws were enforced, and this also without any additional expense to the city. The average motorist charged with violation of the city ordinances in regard to speeding, etc., never pays any fine at all.

Motorists have already paid into the city treasury hundreds of thousands of dollars, and San Francisco has received from the motor vehicle fund, since 1916, $615,260.25.

The Automobile Association will also seek to protect motorists in other counties in Northern California.

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OREGONIANS FEAR TOWNSEND BILL

Movement Is Begun to Fight Measure Believed Dangerous to Continuation of Present Federal Road Aid.

"Fight on Townsend Bill is Launched," is the heading of a long article in the Portland Oregonian. For various reasons Oregon dislikes the bill—too much federalism, disregard of regional initiative, suspected commercial exploitation by certain interests, and so on.

A special point is that the bill does not provide for continuation of the present Federal aid, for which appropriations cease June 30, 1921, unless added to meantime.

Oregon is organizing to give strong backing to that state's recent legislative resolution, and to the movement instituted by the national body of state highway officials, for adding $100,000,000 a year for four years after 1921, for commercial roads, and for $10,000,000 a year for ten years after 1921, for forest roads.

The movement involves a plan whereby a number of far-western states, in which as much as 90 per cent of the area is federally withheld from development, the states will contribute much less than on a 50-50 basis, as is now done, in obtaining Federal aid.

Unless the Townsend bill is defeated, it is asserted, the road programs under way in Oregon, Washington and the other public land states will be seriously handicapped, if not killed, so far as federal assistance is concerned.

Initiative in the effort to present an organized front of public land states against the measure is being taken by the Oregon State Chamber of Commerce.

In 1916, Congress passed the first federal aid law, appropriating $75,000,000. In 1919 this was amended and $200,000,000 was appropriated. Out of this $275,000,000, Oregon's share is $4,332,178. Unless there is another appropriation the last of these funds will be distributed by June 30, 1921. Congress is asked in a bill presented by Senator Chamberlain of Oregon to appropriate $100,000,000 in addition to the post road money.

Under the Chamberlain $100,000,000 measure Oregon would receive $1,576,152 for five years. The Louisville, Ky., conference of state engineers and highway commissioners, held in December, 1919, urged Congress to appropriate $10,000,000 a year for ten years for the building of county and state roads within the national forests. Of this sum Oregon would receive $700,000 a year. In the past Oregon received $596,000 of the $3,000,000 forest road fund, which will be exhausted June 30.

Californian Names Spark Plug.

When the National Spark Plug Co. decided to change the name of their plug and explained to their dealers that they wanted a new name that was descriptive and original, Gaston M. Gilber, proprietor of the Thomas Supply Co., 312 West Ninth St., Los Angeles, said, "I know more about that plug than any dealer and I'm going to name it." When the contest opened the names came in. There was Dragon, TNT, Huskie, names of all kinds, good ones and bad ones and then came Fyrac—meaning "fire and action." The originator of the name was unknown but the name wouldn't let go. When Mr. Gilber was interviewed he smiled and said, "I told you I would name that plug. I know the Fyrac plug, I have seen it give service in the oldest Ford and the finest Rolls-Royce in Los Angeles. Every Fyrac plug I sell makes a good friend for me. The one-inch firing surface feature guarantees plenty of fire and lots of action."

GASTON M. GILBER,
Los Angeles man whose suggestion was adopted in selection of "Fyrac" (fire, action) as the new name of a well tried spark plug.

New Agents for Columbia Six.

The Columbia Six car has been taken for the Southern California territory by J. V. Baldwin, of the J. V. Baldwin Motor Car Co., of Los Angeles, Cal. His appointment as distributor coincides with the recent visit to the Coast of George Bayerline, president of the Columbia Motors Co., of Detroit.

Tourists Still Pour to Coast.

There is no visible sign that the tourists have ceased to start West from the weathery East. Like a horn of plenty each railroad station pours forth a large number of them daily, as trains arrive. The outlook is that this will continue until the "summer" season begins, and as the knowledge is really beginning to percolate, that in most parts on the Coast "summer" is like spring or autumn, and that "winter" is like autumn or spring, and that the sun shines practically every day, and the meadow larks warble and the flowers grow, ever and anon and then some—as all this is penetrating the Eastern consciousness, it looks as though the "summer" season, too, will be a hummer.

Nation Co. Joins Coast Tribe.

Sometimes they come to the Coast to rest—and wake up; sometimes to sell—and stay. The Nation Co., manufacturing accessories, concluded to move from the East to Los Angeles when Mr. Nation found that many raw materials needed "grow" right in California and are procurable for less than back there. The saving of transportation cost—that sunk in, too; not to mention elimination of damage in transit, transferring, cartage and storage; traveling expenses cut down, and spent where the traveling's fine; all naturally reflected in costs and prices. That Coast dealers will help such enterpristhinkers make their conclusions come true goes without saying.

Were, Are or Will Be.

Caught at random:

George D. Edmonds, of the Edmonds & Jones Mfg. Co., Detroit, recently visited the Coast.

A. H. Collins, Cadillac president, is enjoying a vacation on the Coast. At Los Angeles and San Francisco he was guest of Don Lee, who has distributed more than 10,000 Cadillacs in California.

William O'Neill, Stromberg Motor Devices general manager, is playing golf somewhere south of the Tehachapi range, after attending the San Francisco show.

Percy Owen, Liberty Motor Car president, is expected in San Francisco.

To Disseminate New Comer Trailers.

Sole distribution of New Comer trailers, semi-trailers, truck units and axles, manufactured by the D. A. New Comer Co., of Los Angeles, has been taken by the F. H. Olds Co., formerly Olds, Banta & Smith, of the same city. Both the Olds and New Comer organizations are pioneers in the truck attachment field on the Coast.

In advertising, persist. Spasms are mere fits.

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SAN FRANCISCO'S SHOW PROGRESSES

First Annual Coast Automotive Exposition Opened March 30, Gathering Place of Many Dealers.

Presenting a striking idea of the enormous proportions to which the automotive accessory manufacturing and selling industry has reached west of the Rockies, the first annual Pacific Coast Automotive Equipment Exposition was opened in the Civic Auditorium in San Francisco on Tuesday, March 30.

The show, marked by the gathering of more than 5,000 accessory and automative equipment dealers from all parts of the Far West, will close April 4, according to Show Manager Arthur Bryson.

Included in the large list of exhibitors are approximately every large automotive equipment manufacturing firm in the East. Most of the firms rushed their displays to the Coast by express in order to participate in the big event.

Although the first show of the kind yet produced in the West, the Exposition is claiming national attention and will rank with the shows held already this year in New York and Chicago, according to leading automotive equipment dealers who witnessed the Eastern shows.

No feature necessary to make the Exposition one of the great industrial events of 1920 on the Coast has been overlooked by Manager Bryson and Director of Exhibits F. R. Quigley.

The decorative scheme reveals an indoor paradise, descriptive of the outdoor wonderlands of the West. In elegance the scenic effects uphold the high standards set at the big industrial shows staged recently in the Auditorium.

White and gold are the prevailing colors, giving a pictorial setting of warmth and beauty. A massive sunburst throws a flood of light over the main floor, this lighting effect blending with the vari-colored rays from huge floral baskets erected from the floor. The combination gives a reproduction of a California scene of sunshine and flowers.

The decoration scheme apparently increases the vastness of the Auditorium many times and the artist, Henry Vowinkel, has won the praise of art critics and architectural authorities.

The combined participation of the big Eastern factories and the interest shown by automotive equipment dealers, jobbers and agents on the Coast assure the success of the Exposition; stamping it as an attraction of first importance.

More than 1,000 different lines of equipment and accessories are displayed at the various booths. Every bit of available space on the main floor is utilized to house the exhibits, artistically arranged amidst colorful settings.

An abundance of educational features are offered, in addition to the "one mile" of exhibits and special attractions. The model garage, tire repair and vulcanizing shop and machinery hall are chief among these. They are the most complete in their line and of the greatest value to motorists.

The model garage is situated in the Larkin St. wing of the building. It is equipped with selected materials and appliances approved by a special committee, made up of Director of Exhibits Quigley, Robert H. Martland, secretary of the California Automobile Trade Association, and representatives of prominent California jobbers.

The model garage represents the last word in garage construction and equipment, only the most modern appliances being installed, and is designed to serve as a guide for the prospective builder of a garage.

Everything necessary for the care and upkeep of tires is demonstrated in the tire repair and vulcanizing shop, in charge of George Parker, tire expert, under whose direction a large corps of assistants give daily and nightly lessons in tire repairing.

In machinery hall, also in the Larkin St. wing, every imaginable bit of machinery used in garages and machine shops catering to the automotive trade are displayed. Many new devices are seen here for the first time.

An entertainment program of great merit is enlivening and brightening the activities of the show.

Comet Appears on S. F. Horizon.

The Comet Six car has appeared in the San Francisco territory recently, being taken by a new firm, the California-Nevada Motor Co., for Northern California and Nevada.

Composing the agency are E. W. Thompson, at one time prominent in the Los Angeles automobile field, and Phil Williams, well known in San Francisco through a long connection with J. W. Leavitt & Co.

The Comet Six is built in Decatur, Ill. Its wheelbase is 125 inches. The engine is Continental, six-cylinder, with 3½-inch bore and 5½-inch stroke.

Within a few weeks Al. G. Faulkner, Marmon dealer, will open for business in his new quarters at Hyde and Post Sts., costing $250,000 and now rapidly nearing completion.

Auto Styles Co. Opens Up.

"Jimmie" Backes has opened up at "Bob" Smith's old location, 1062 Geary St., San Francisco, as the Auto Styles Co., builders and designers of custom-built bodies for all cars. E. J. Egginton is associated with him. Backes is largely responsible for the development of speedster or custom-built bodies in San Francisco. Judging from orders and inquiries at the recent show, his work has the public's approval. All the men with him have been with this line of business since its introduction. Roy Hamilton has charge of retail sales; Charley Dillon has the export trade, having lived in the Orient for years. Mr. Egginton has charge of production.

Hoover Spring Co. Moves.

The law of supply and demand, with the pressure from demand, forced the Hoover Spring Co., San Francisco, to take larger quarters at Fell and Franklin streets. The ground floor has 20,000 square feet; there is a $6,000 mezzanine floor; there's new machinery, and everything's on the unit plan, and in shape to care for all needs west of the Rockies. S. A. Beck recently became sales manager. He was formerly with M. Seller & Co., of Portland, Seattle and Spokane.

Minehan to Handle Lehigh Line.

Thomas F. Minehan, San Francisco, who has occupied the same Market St. place 14 years, now is distributor of the product of the Lehigh Tire & Rubber Co., which makes 2,000 tires and 3,000 inner tubes a day, Lehigh personnel is notable. W. S. Dursten, a director, in charge of the factory, formerly was in charge of construction in Firestone plant No. 2. W. E. Patterson is production manager. F. E. Zesider, who runs the inner tube department, headed the same branch in the Goodrich service. E. K. McMillen handles the material production. W. L. Copley, operating superintendent, was with the Portage Rubber Co.

New Building for Hawley, King.

Hawley, King & Co., Oakland car and Globe tire distributors, recently made known some figures illustrating the scope of their new San Francisco building, to rise at the intersection of Van Ness Ave. and Jackson St.

It will occupy a site 65x111 feet and will have three stories and mezzanine floor. The front of the lower floor will be the retail salesroom; the mezzanine will house the wholesale departments. There will be 26,000 square feet of floor space.

In England, gasoline—called petrol there—costs more per gallon than in the United States, but the gallon is larger.

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PREDICTION MADE BY H. S. FIRESTONE

Says It Is Only a Matter of Time When All Large Tire Makers Will Have Coast Establishments.

At a recent luncheon at Hotel Clark, Los Angeles, attended by some 30 leading Los Angeles business men, H. S. Firestone, president of Firestone Tire & Rubber Co., reiterated statements made to a Chamber of Commerce a year ago, on the region's manufacturing advantages and predicted that in time all the large tire makers would have to establish themselves in it. He had just returned from a trip to the Imperial Valley, and praised the outlook for cotton on the Coast; its seaport facilities for rubber imports; its climate, etc. He said his company would not build here this year, however. He intimated the country is expanding too fast, especially in building operations, but urged more housing for workers.

As to the rubber supply, Mr. Firestone said England controls it but that with the right kind of government in the Philippines, Mindanao especially should produce as good rubber as comes from the Malay peninsula.

The Filipinos desire independence, and Frances Burton Harrison, governor-general, favors this; says they are quite fit for it. The degree of civilization, dating away back, in the islands, is not generally understood. The fact is there are fewer illiterates than in some parts of the United States.

Don Lee Men Hold Sales Race.

The transcontinental road race staged by the Don Lee organization was won by San Francisco. Fresno was second, Sacramento third. The race was the method adopted for scoring the various branches in an accessory and tire sales contest. Branches were handicapped according to the quotas adopted and each branch had a map and miniature automobiles to keep a visible record always before salesmen and customers. San Francisco jumped to the fore at the start and was never headed. The fight for second was close, every branch figured, the final week's spurt putting Fresno over. Oakland made a hot finish, nosing out Los Angeles.

Acceptance Branches in Southwest.

The General Motors Acceptance Corp., now doing a discount business of $80,000,000 a year, has opened branches at Los Angeles, Cal., and Dallas to handle the business there in the Southwest. The Los Angeles branch, located at 124 W. Fourth St., in that city, takes in California south of Santa Barbara and the states of Arizona and New Mexico. It is under general control of C. R. Warren, San Francisco branch manager. The Dallas branch is controled from Chicago.

Allen Takes Stevens-Duryea.

The Stevens-Duryea car is to be distributed in Northern California, Nevada and the Hawaiian Islands by L. D. Allen, Inc., of San Francisco, formerly the California Motor Sales Co. L. D. Allen, head of the firm, now controls Northern California sales rights on Stevens-Duryea and Cole Aero Eight cars and Sandow trucks.

Few automobile careers on the Coast have been at once so consistent and rapid as that of L. D. Allen, who organized the California Motor Sales Co. in small quarters in October, 1917.

Now the re-named company has a great new building containing over 100,000 square feet arising on Van Ness Ave., has branches in Oakland and Fresno and will open others at important California points in the next few months. The San Francisco and Oakland houses alone represent an investment exceeding $500,000.

Can Store 70,000 Savage Tires.

One of the largest storehouses in San Diego, Cal., is to be built as an addition to the plant of the Spreckels Savage Tire Co., of that city, according to a recent announcement by Raymund V. Morris, general manager.

The new building will adjoin the Savage factory. It will occupy an entire block of ground, being 660 feet long and 75 feet wide and having a storage capacity of 70,000 tires. Construction will be of steel and corrugated iron and foundations of concrete. The building will be completed within five months.

The new warehouse will have 10 loading doors, making it possible to load or unload 10 freight cars simultaneously. The warehouse floor level will be the same as that of the main plant and gasoline trucks and trailers of the latest models will be used in trucking.

Willard-Portland Convention.

Willard battery service station dealers from all parts of Washington, Oregon and British Columbia held their fourth annual convention in Portland recently. More than 100 attended, representing 65 Willard stations in the Northwest. S. W. Rolph, manager of retail sales; E. S. Bentley, manager of sales promotion; S. E. Baldwin, advertising manager, and E. St. Elmo Lewis, efficiency counselor, from the Cleveland factory, were there in every respect.

Wants Hoskins' Front-Drive.

Harry Miller, Los Angeles expert who has built cars for Barney Oldfield for years, has asked G. J. Hoskins, Australian inventor of the self-centering, co-ordinated radio spherical front drive gear, for its use in building a racing car for the Indianapolis 500 mile race. The invention has been tested 18,000 miles, does not permit skidding, even with smooth tires, greatly increases speed—seems to be a concrete argument that the prevalent automobile drive design started at the wrong end of the machine; the push end instead of the pull end. It is reported Mr. Hoskins has sold his Australian rights for two million pounds, and that his invention is to be put into production at Detroit and in Canada, under supervision of himself and his two sons. He is now building a car to be driven to Detroit this spring.

The Coast for Frederickson.

H. E. Frederickson, he of the large hand and of racing repute in the old days, began with $200 in the Omaha automobile business, cleared about $250,000, sold out and became a successful Fremont farmer, agreeing not to re-enter the automobile trade for five years. The time expired a year ago. Last winter Mrs. Frederickson suggested they investigate manufacturing and distributing opportunities on the Coast, and they're here, looking around.

Six years ago Mr. Frederickson came West for the Lincoln Highway, for which he was consul-at-large as the result of his energy in Omaha. He suggested that Los Angeles tap the highway at Ely, Nev., and now the chances are good for a spur from there South, it having the support of F. A. Seiberling, Goodyear president and large contributor to the route.

Through Mr. Frederickson's efforts, the American Automobile Association's San Francisco branch sign-posted the Lincoln Highway in California liberally.

New Plant of Battery Concern.

Western Battery Manufacturers, Inc. has been organized by V. T. Coombs, of Los Angeles, and S. M. Cooley and Frank E. Sweet, of Indianapolis. They expect to turn out 100 batteries weekly, immediately, at 1938 East Vernon Ave. Mr. Coombs was Pacific Coast representative of Prest-O-Lite and head of the General Service Co., making batteries in Indianapolis. Mr. Cooley for many years was vice president and general manager of the latter company, and Mr. Sweet was its secretary. Messrs. Cooley and Sweet recently came to the Coast to rest—but opportunity called.

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BROWNELL RELATES SOME FORD FACTS

Publicity Head Tells in Los Angeles of 1,000,000 Program and About a Single-Melting Process.

C. A. Brownell, Ford publicity director, reecntly was received by the Los Angeles branch force with a profusion of flowers, and all the male members wearing straw hats. The branch will reopen production soon and make bodies for the whole Coast.

Detroit reports are that Ford's March schedule was for 3,176 cars daily—about 425 short of Ford daily record, and that the plan is for 1,000,000 cars and trucks in the fiscal year ending August 1. Mr. Brownell, at this end, was quoted as saying 5,000 automobiles per day and 1,000 tractors by the Fordson plant at Dearborn is the idea for the 1920-21 fiscal year.

Mr. Brownell spoke of the Ford single-melting process. Now ore is shipped to Pittsburg or Cleveland, melted into pig iron, remelted, and again melted in Detroit. The Ford way is to melt the ore once, then pour. It is predicted the company soon will own mines, also steamship lines.

Lockwood's Deflector Discovery.

A. S. Lockwood, proprietor of the Kozy Wings Auto Supply Co., 1032 South Grand Ave., Los Angeles, is elated at having obtained exclusive sales control of the Kozy Wings wind deflectors, which he considers the most attractive and practical on the market. He is authorized agent for Hartford tonneau windshields. The Kozy Wings are designed for class and comfort; to insure warmth in winter, coolness in summer. They are instantly and conveniently adjusted to any angle, as windshield or deflector, will not rattle, and are so shaped that no wind will pass beneath or over them into the car.

Southland Dealers for India Tire.

India tires, manufactured by the India Tire & Rubber Co., of Akron, O., will be distributed in Southern California by Nelson & Price, well known tire firm of Los Angeles. The India line is sold under a 10,000-mile guarantee, on both cord and fabric tires.

Washington Tire Coming On.

The Washington Tire & Rubber Co., of Spokane, Wash., makers of Western States tires, produced its first casing in May, 1919. From that time to December 31 gross production totaled $243,806, representing a daily average output of 51 casings and 59 tubes a day. January, 1920, business was $46,557, averaging 88 casings and 72 tubes a day. By April 1st production is expected to be 150 casings and 200 tubes a day.

Western States tires are now distributed by 168 dealers in the Inland Empire territory, 19 of them in Spokane. Net sales for the first two months of 1920 were over $60,000, with $19,000 worth of orders on hand. The company estimates its business for 1920 to amount to $1,200,000.

Edward Hauck Now Sales Manager.

Edward C. Hauck was in the navy two years during the war. Then he rejoined the Willys-Overland Pacific sales force in San Francisco. He was one of a small group of merit men sent to the Toledo factory, to see things thoroughly for several weeks; was offered money reasons for remaining East; preferred the Coast; and thereby, plus his previous fine record, got himself picked on when E. A. Totten of the Overland-Totten Garage, San Jose, agents for the Willys-Knight and Overland, sought the best man available as sales manager.

MORE TRUTH THAN POETRY.

A motor car expert who writes for the papers
On technical subjects has recently told
The speediest mode of correcting the capers
That cars will cut up when the engine goes cold.
"I'll try 'em," I said, as I folded the clipping;
"Hereafter my flivver won't need to be towed;
He's lucky, that fellow, it must be just ripping
To know how to fix up a car on the road."
I met him that week as my flivver sped by,
His motor was stalled, and he didn't know why!
—Montague in N. Y. American.

Sandow to Locate in L. A.

William G. Schultz, sales manager of the Sandow Motor Truck Co., Chicago, recently visited Los Angeles to find a temporary location, preliminary to a permanent home, for the California Motor Sales Co., of San Francisco. H. E. Phillips and Paul J. Feely, of the latter company, accompanied Mr. Schultz. Paul Feely formerly was automobile editor of the San Francisco Examiner.

Dealer Sues for $150,000.

R. O. Jackson, Los Angeles, doing business under the name Rubber City Clearing House Co., dealer in tires, has sued A. P. Michael Narlian, an attorney; the Collection Service Corp., and the Rubber City Clearing House of Akron, O., for $150,000 damages. He alleges a conspiracy, as the result of a receivership having been placed on his business, without due cause, he claims.

Points In the New 6-48 Moon.

In a letter from President Stewart McDonald, of the Moon Motor Car Co., St. Louis, to P. W. Wisdom, western sales manager, Los Angeles, points of interest in the new 6-48 model. The Victory made such a hit that it was determined to replace it this season with an improvement on the same model.

Among the new features are a 7-R Continental engine, with four-bearing shaft; absence of vibration; more power, speed, detail finish, refinement; a heavier frame, with 6-inch side rails and a thicker web—no body squeaks, grumbles, noises, etc.; longer wheelbase, now 122 inches, giving the driver and the engine more room; a beautiful cabinet in the rear of driver's seat, for winter curtains; Delco ignition, starting and lighting throughout; Rayfield carburetor; gasoline tank in the rear, protected by a large frame of pressed steel, used on only the Cole and Moon; a new, substantial, rigid tire carrier, massive looking yet light in weight; new style spring bolts, that hold much oil and are easily filled; Timken axles; Brown-Lipe transmission; Spicer joints; Fedders radiator; cord tires—in fact, a thoroughbred, with all the good units of last year's Victory, and the foregoing improvements. It is a remarkable combination of good features, not of good-and-bad ones. The prices: $2,285 for wood wheels and cord tires; disc or wire wheels extra; sedan or coupe, $3,285.

Then comes the big brother, the 6-68, almost as much improved upon the 6-66 as the 6-48 is upon the Victory. The 6-68 has 32x4½ wheels with cord tires. Other details are to be announced soon. Price, $2,750 with cord tires.

Service Firm Head on Coast.

Ralph S. Lane, president of the United Motors Service, Inc., the service department for Delco, Klaxon and Remy products, recently appeared on the Coast and visited the company's branches at Los Angeles, San Francisco, Portland and Seattle.

Coincident with his presence on the Coast, the Electric Equipment Co. and Kay & Burbank have been appointed Los Angeles distributors for the Delco, Klaxon and Remy lines.

Cunningham Agent for Southland.

The Southern California agency for the Cunningham Eight, a high-grade custom-built car, has been secured by the Elbe Motor Co., of Los Angeles, headed by W. L. Elbe, already well known as manufacturer of the Elbe Speedascope. The Cunningham is built at Rochester, N. Y., by James Cunningham & Sons, old time coach builders.

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SEATTLE PLANNING FOR MOTOR BUSES

Legislature Asked to Pass Laws Permitting Municipalities to Put on Own Transportation.

Seattle, Wash., plans to operate motor bus lines in connection with its street railway system, but wants to do it legally and not in contradiction with state laws. Action therefore is being taken to put before and have passed by the state legislature, to meet in March, a law permitting cities operating their own street railway lines to establish motor bus service without restrictions. The Seattle council utilities committee recently approved ordiances for motor bus service connecting with the Eastlake car line and serving the Yesler and Laurelhurst districts.

Fenner on Coast for Ream Joint.

Paul R. Fenner is Pacific Coast representative for the R-S Mfg. Co., Kansas City, manufacturing the Ream ball and socket and full roller bearing universal joints. The plant and works are at Dayton, O. Mr. Fenner is at 324 Monadnock Building, San Francisco, conducting a campaign of education concerning what its makers claim is "the most efficient universal joint in the world." In this the brochure named Knowledge, issued by the company, helps much. It treats all phases of the subject. The appeal is to dealers and repairmen, with a promise that using the Ream means elimination of noise, backlash, and other universal joint troubles.

Richards and Cast on Coast.

G. A. Richards, special representative of Firestone, recently left Detroit for a six weeks' trip to the Pacific Coast. With him was J. F. Cast, manufacturers' sales manager, of Akron.

Agent for Cincinnati Battery.

Distribution and service connections for the Cincinnati storage battery have been opened in Los Angeles, Cal., where P. H. Halbriter, well known sportsman and merchant, and Elmer Needes have opened their headquarters on East Seventh St., opposite the Ford assembly branch.

L. A. No-Parking Law Changed.

Petitions as long as roller towels, circulated by the Los Angeles laundrymen who want to deliver to hotels during busy hours, were numerously signed, against the recently enacted no-parking ordinance. Referendum was thr[illegible]e city council last week am[illegible] and it goes into effect April 10. Deliveries will be permitted downtown between 11 a. m. and 6:15 p. m.

Jordan Prices Rise.

In announcing an increase in the prices of Jordan cars, Seager, Clark & Co., of Los Angeles, enumerate some of the reasons: engines cost 8 per cent more; axles, 6 per cent; bodies, 10; painting and trimming, 11; tops 5; transmissions, 10; radiators, 10; an average increase of 8½ per cent. On March 20 the Jordan five-passenger model cost $125 more; the seven-passenger, $225 more.

Reverdy, Moreland Superintendent.

R. Reverdy has been appointed superintendent of the Moreland Motor Truck factory. He was in charge of constructing the new plant at Burbank, Cal. and suggested many features of it. He is an engineer of wide experience, and graduate of leading European technical schools. He also studied sales and engineering there and in South America.

Heads Tacoma Dealer Body.

T. W. Little has been chosen president of the Tacoma Automobile Dealers' Association, of Tacoma, Wash., at a recent meeting of the association. A. F. Blangy is new vice-president; R. A. Mueller, secretary-treasurer. Twenty firms of Tacoma are members.

Vance H. Day In Southwest.

Vance H. Day, general sales manager of General Motors Truck Co., is making an extended trip in Texas, Arizona and other parts of the Southwest, on business and to shake all signs of a recent illness.

Represents L. M. Field in South.

As the result of an extended Southern California tour by L. M. Field, of L. M. Field, Inc., of San Francisco, Claude N. Smith has been appointed territorial manager in Southern California and Arizona, directing distribution activities on Selden, Jackson and Atlas trucks.

To Distribute India Tires.

One of the most important deals in the Pacific Coast tire trade became known recently when Nelson & Price, Inc., of Los Angeles, announced that they have become distributor for India tires, built by the India Tire & Rubber Co., of Akron, O.

Goodyear Textile Foundation In.

Foundations for the Los Angeles plant of the Goodyear Textile Mills Co., formerly the Pacific Cotton Mills Co., are practically in. The plant will house 33,000 spindles, capable of turning out 150,000 yards of fabric weekly.

San Diego Dealers Reorganize.

The Motor Car Dealers' Association of San Diego, Cal., has been entirely re-organized with the appointment of a new executive committee of seven to transact the association's business. A permanent secretary will be paid to handle records and correspondence.

F. B. Naylor is president of the new board, which consists of F. B. Naylor, C. W. McCabe, W. E. Shaw, B. W. Sinclair, John Moynihan, W. S. Smith and W. B. Connory.

The new system of organization, suggested by President Naylor, follows the lines of similar organizations in the North.

See What They Did to Duffy.

Unlike the man who got on the bear's back, James B. Duffy has devoted his life to carrying a bear of a job, of one kind or another, in the railroad business, and doing it well and smilingly. Just for that, the task of managing the joint ticket offices in San Francisco was loaded onto him during the war. In 14 months 900,000 tickets, worth $12,000,000, were sold. Now he is back with the Santa Fe; but they wouldn't give him his old position, in charge of the company's passenger business in the Bay cities. His ability in pleasing the Government and the public had been noted, and he is now assistant general passenger agent. Mr. Duffy has many automobile friends.

Foresees 10,000 Cars in Nevada.

Automobile licenses to the number of around 7,000 were issued during January and February to motorists in Nevada, Secretary of State George Brodigan announced recently. He estimates 3,000 more licenses for 1920. The revenue to the state from motor vehicle licenses amounted, at a recent date, to $72,042.

Leach Car in Northern California.

The Leach Power-Plus Six car, built in Los Angeles, will be distributed in the Northern California territory by Max Arnold, well known dealer of San Francisco. Arnold contracted to handle half a million dollars' worth of Leach cars.

Stromberg Man Playing Golf.

William O'Neill, general manager of the Stromberg Motor Devices Co., makers of the Stromberg carburetor, recently quit battling snow awhile to come to California and play golf.

Lambert Tires in Southland.

G. K. Fargo, general manager of the Lambert Tire & Rubber Co., of Barberton, O., has taken the Southern California distribution of Lambert tires.

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STEVENS-DURYEA'S IN NEW S. F. HANDS

Important Deal One of Many Moves In Bay City Proving All-Year Business on Pacific Coast.

One of the most portentous among new San Francisco agency announcements is that the Stevens-Duryea car has been taken by L. D. Allen, Inc., formerly the California Motor Sales Co., for Northern California, Nevada and the Hawaiian Islands.

L. D. Allen, head of the former California Motor Sales organization, announces that he will continue to handle the Cole Aero Eight car and Sandow truck.

The Columbia Six agency has been taken by the Wright Motor Co., Inc., for Northern California. W. R. Wright is a well known San Franciscan. Sales quarters have been opened on Van Ness Ave. and Wright recently received his first shipment of new 1920 models.

The Wright organization in Northern California has already been built up to a strong, efficient point and J. G. Bayerline, president of the Columbia Motors Co. and a recent Coast visitor, has promised large shipments of cars this year for the California demand.

The Highway-Knight motor truck, the first truck built with the Knight sleeve-valve engine, will be handled locally by the Pacific-Knight Motor Sales Co., 943 Post St.

The Signal truck will be distributed in California, Arizona, Nevada, Oregon and Utah by the Sierra Auto Supply Co., headed by W. H. Duncan, president, and Charles C. Frye, manager, with branches at Reno, Susanville, Loyalton, Quincy and a Southern California branch at Los Angeles, recently opened.

The freight car shortage continues a serious problem with the Greer-Robbins Co., Hupmobile distributors, and A. C. Robbins is now enroute to Detroit to collect some freight cars to relieve Detroit of its many cars stored in warehouses, owing to lack of railway cars to move them.

Recently, Nordyke & Marmon, of Indianapolis, sent out the following self-explanatory wire to dealers throughout the country, reading in part: "The Coast carried off honors for automobile show week, according to Al. G. Faulkner, California Marmon dealer, who took orders for 89 new series Marmon cars, during the week of the San Francisco show, eclipsing the phenomenal record set at New York and Chicago shows." Thirty-eight Marmons sold retail at New York, 71 at Chicago, 89 at San Francisco.

Martin M. Hartmann recently received a shipment of 50 cars; a whirlwind selling campaign ensued and cars were cleaned up in short order, after which a slump in activities threatened, but Hartmann has been notified that more cars are en route to the Coast.

The 1920 models of the Jackson car line, to the extent of more than 1,000, have reached L. M. Field, Inc., who has extensive plans for placing the line with some of the largest Pacific Coast dealers.

Upon taking the Northern California agency for the Leach Power-Plus Six, built in Los Angeles, Max Arnold expected to have to pioneer the car, but he is already besieged for deliveries and indications are that demand will far exceed his allotment.

When A. D. Plughoff, of J. W. Leavitt & Co., started East recently he went primarily to secure freight cars to bring Oldsmobile cars out to the Coast.

The largest shipment of Premier cars seen in San Francisco since before the war recently reached F. O. Renstrom, who has lately taken the agency for California.

The Renstrom organization has also recently received its first shipment of 1920 Briscoe models.

The principal reason for the recent visit to the Coast of E. A. Scheu, general sales manager of the King Motor Car Co., was to re-establish the King Parts Service Co., so that the needs of King owners throughout California may be promptly met. Management of the King Parts Service Co. will be turned over to the Pacific Motors Co., enabling closer harmony and greater efficiency.

Among new models recently arrived in San Francisco are the Velie sport model, McFarlan Six sedan, Jackson sport, Columbia line and Premier four-passenger closed car.

Regarding the new Lafayette car, for which they are Northern California dealers, Greer-Robbins Co. report they expect the first car in a few months.

Al. G. Faulkner, Marmon distributor, expects to occupy his great new sales and service building on Van Ness Ave. about April 1st.

Reports of freight transportation difficulties out of Detroit are not exaggerated, according to word received from the Chalmers factory by Lou H. Rose "The railroads' failure to handle the output of the big factories caused Detroit to be literally flooded with finished vehicles, which the trade is clamoring to absorb.

"Unusually severe weather, shortage of equipment and embargoes have so paralyzed the railroads since mid-February that they could not furnish half the freight cars necessary to more the constantly growing output. Toledo, Flint and Lansing are in much the same fix."

Among recent Eastern visitors in San Francisco has been Harry H. Hawke, general sales manager Traffic Motor Truck Co.; Charles P. Hennessy, assistant sales manager Saxon Motor Car Co.; H. M. Lee, president Duplex Truck Co.; and E. A. Scheu, general sales manager King Motor Car Co.

Retail distribution of Lee tires in San Farncisco has been secured by the H. W. McKevitt Auto Supply Co., states H. Senn, Pacific Coast manager of the Lee line for Chanslor & Lyon.

Howard Hill has been made retail sales manager of the Pioneer Motor Co., Peerless car and Republic truck distributor.

S. S. Keeney now heads the Oakland branch of L. D. Allen, Inc., now handling Cole Aero Eight and Stevens-Duryea cars and Sandow trucks.

The Clydesdale Motor Truck Co., previously located at 1217 Market St., has moved to 1408 Market St. and after June 1st will occupy its new three-story sales building now being erected at Market St. and Van Ness Ave., according to A. L. Doerr, of the Clyde Cars Co.

One-Day Flight, Tacoma-San Diego.

Leaving Riverside, Cal., the morning of February 12, Maj. A. D. Smith reached Seattle February 20, despite fog. Leaving Camp Lewis, near Tacoma, at 6 a. m., on March 6, he flew to San Diego, 1,400 miles by 8:58 p.m., in 9 hours 42 minutes flying time, 14:58:00 elapsed time). It was the longest one-day flight ever attempted on the Coast, and by far the fastest time ever made by any other means. Only four stops were made.

Major Smith and his mechanician, Sergeant L. S. Genslinger, lost an hour battling fog at Eugene, Ore., doubling back 80 miles. Several stops for gas and oil were made, but Red Bluff, Cal., to San Francisco, 170 miles, was done in 1 hour 20 minutes, by 2:35 p. m.

Bakersfield landing field was reached at 5:55 p. m., for a 50-minute stop. Leaving at 6:45, long after dark, the light over the lofty Tehachapi range was made—a non-stop "hop" of about 300 miles to the finish. Major Smith said his time of passing Los Angeles indicated an actual flying time to that point from San Francisco of 4 hours 20 minutes. The shortest automobile distance, 423 miles, recently was done in 9 hours 20 minutes, by a Peerless. From San Francisco, Sergt. H. A. Wallace was mechanician. Flares on North Island, San Diego, guided them in landing the Haviland.

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Phenomenal Growth in Coast Motor Stage Lines

In California Alone, 82,125,000 Miles Covered in 1919 by 1,500 Machines—3,600,000 Persons per Year, or 70 Per Cent of All Passenger Traffic Carried in Southern Section—500 Loads Leave One Station Daily

TO PERMEATE your system with a deep sense of power, plus fresh air and a plethora of scenic satisfaction, roll away a day or so in one of the multi-cylindered, giant-tired, basso-murmuring motor stages that masterfully traverse the valleys and mountains of the Pacific states—mostly on California's roads of quality, streaming along like endlessly weaving ribbons. The machines move with a throbbing strength, steady speed and accuracy of steering while keeping to schedule, that sometimes frightens drivers of slower vehicles as the huge ones surge among them and pass on.

It is estimated that in 1919 more than 1,500 motor stages of all sizes were operated in California, with a daily mileage of 225,000 or 82,125,000 per year. The investment probably totaled $4,000,000, of which 85 per cent was in the machines, averaging them at $2,500. In view of the service, it is a much better showing than an equal railroad investment. No public statements of profit have been made, but obviously they are excellent. Most of the companies are owned by single individuals or very small groups.

In Southern California, largely in Los Angeles, more than $1,500,000 is invested in approximately 15 lines, nine of which use at least 200 stages and a Los Angeles union terminal. These lines are the Eldorado, Murieta, Pickwick Stages, Pickwick Northern, White Bus Line, White Stage Line, United Stages, Mt. Wilson, and the Mountain Auto Line, which recently was purchased by the White Bus Line, and which radiates from San Bernardino through the mountain region of that name, including the famous 101-mile Rim of the World route.

From the union station in Los Angeles at least 500 stages leave daily in various directions, touching all points on the inland and coast routes to San Francisco, more than 425 miles; as well as all points on the main roads eastward to Riverside and the San Bernardino region, and southward to San Diego, practically at the Mexican border. About 10,000 passengers are handled through this depot daily—300,000 per month, 3,600,000 per year, approximating the state's entire population, two-thirds of which is in the southern portion.

Fully 70 per cent of all passenger traffic between Los Angeles and contiguous towns is by motor stage. One example of a number of instances is Whittier, population

WHITE LINE CARS AMID ORANGE GROVES WITH "OLD BALDY" IN DISTANCE, ON FOOTHILL ROUTE.

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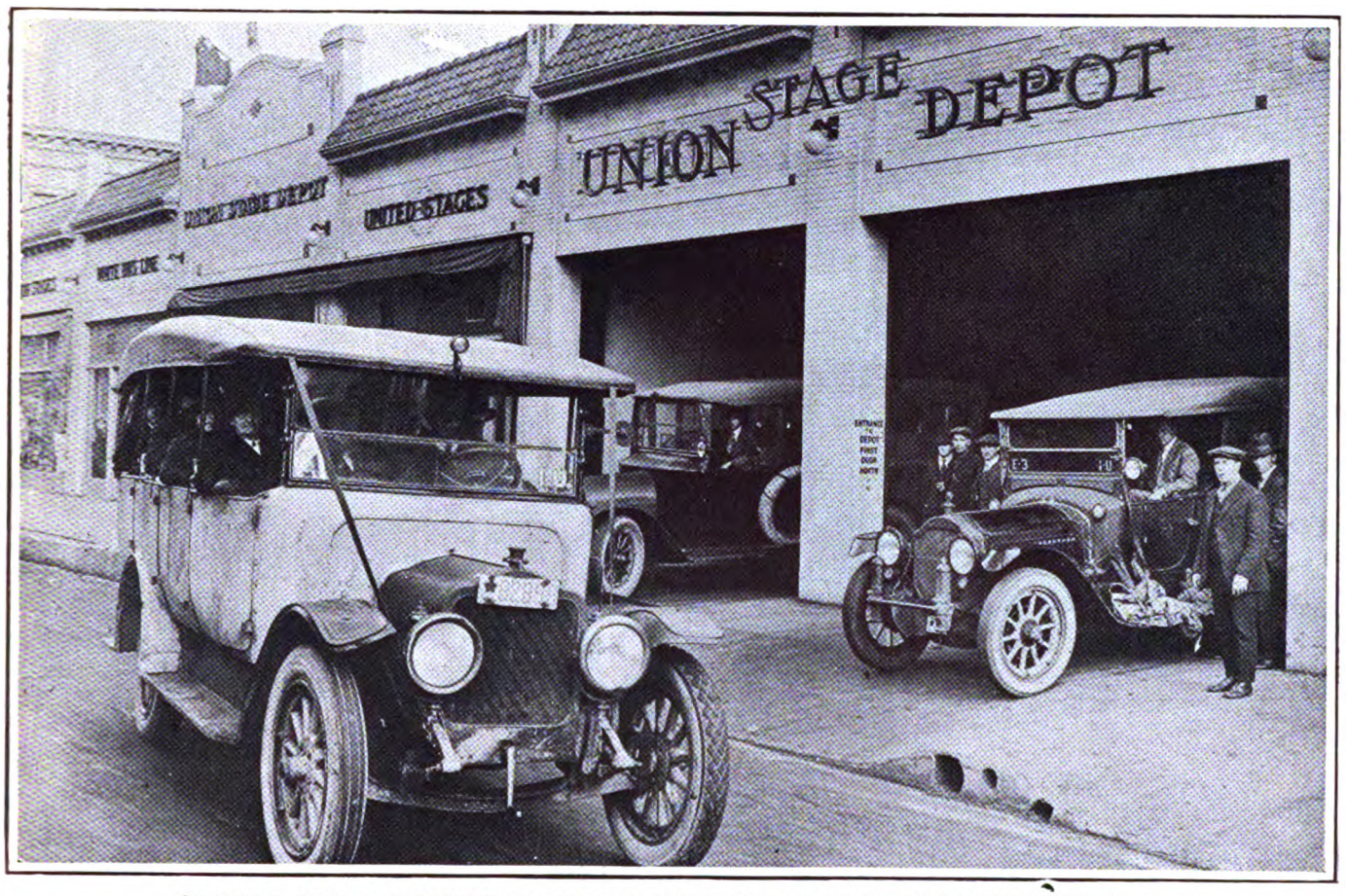

ON THEIR WAY—A "TRAINLOAD" LEAVING THE UNION STAGE DEPOT IN LOS ANGELES.

8,000, which during Christmas week, 1919, contributed 7,600 cash fares.

Co-ordination of schedules, etc., is done by the Union Stage Depot, Inc., under the management of President W. H. Powell. There are companies which do not use the union depot and whose total number of cars totals perhaps 50. Perhaps the largest of these is the Original, running lines to various points from Los Angeles. It is well equipped and well handled. Several smaller companies run lines to nearby suburbs and the beaches.

One of the largest companies, the White Bus Line, covered 1,625,110 miles in 1918; 2,114,390 in 1919, between Los Angeles and the San Bernardino country, northeast, and Santa Ana, southeast. In 1918 it carried 713,745 passengers; in 1919, 1,198,948. In 1919 its consumption of gasoline was 200,000 gallons; oil, 20,000 gallons; cost of fuel and oil, $40,781. The line began in 1916, when it was incorporated, taking over what was known as the P. E. line, running between Los Angeles and Santa Ana. In 1917 the White owners purchased the operating rights and equipment of the Clark line, running between Los Angeles and San Bernardino. In December, 1919, the Orange Belt Line was included. The Mountain Auto Line was added recently. The present fleet comprises about 50 machines, each carrying 22 persons.

The White Bus Line and the White Stage Line are owned by one man. The latter line recently supplanted the A-R-G Line, between Los Angeles and San Diego.

The Pickwick lines, operating between San Francisco and San Diego, make better running time between the Bay City and Los Angeles than any other form of land or water transportation, but so that it may be a daylight trip, a night stop is made midway, at Paso Robles. From Los Angeles to San Diego, 136 miles, not only is the scenic experience better than by rail, but the cost is $1 less; and the return, inland, over the mountains, 184 miles, is one

PICKWICK LINE CAR AT THE SANTA BARBARA MISSION.

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SINCE COMPLETION OF RIDGE ROUTE MOTOR BUSES BEAT RAILROAD TIME BETWEEN LOS ANGELES AND BAKERSFIELD.

tourists never forget. The Pickwick Northern carries from 12,000 to 15,000 monthly; the southern 15,000 to 20,000.

The total north-and-south mileage of this and affiliated lines, 1,358, is said to be the longest in the world; and there is contemplated a link between San Francisco and Portland, Oregon, using the new cement concrete Pacific Highway. Thence north to the Canadian boundary; and the short distance south from San Diego to Mexico, will follow in due course, resulting in a route about 3,000 miles long.

The Eldorado Line, between Los Angeles and the San Joaquin Valley, carried 300 persons in its (then) eight 8-passenger Packards during its first month, in 1917. Today it averages 10,000 monthly, with almost hourly leavings from each end. More than 15,000 persons per month enjoy the marvelous Ridge Route trip between Los Angeles, Bakersfield and Fresno. They see from the ridge, eastward, the high desert dropping away into the mysterious distance; westward, vast stretches of tangled crests, snowy in winter; a magic journey, made in three hours less than by rail.

President W. H. Powell, of the Union Stage Depot, Inc., Los Angeles, tells how, in 1917, the White Bus Line started at 109 East Seventh St., and how he and O. R. Fuller, president and owner of that company, put before others the union depot idea. Too early. It was dropped.

In 1918 the White Bus Line moved to 516-518 South Los Angeles St. and began loading passengers under cover. That fall the union depot was again broached to the Pickwick Northern, Pickwick Southern, and United companies.

In February, 1919, Union Stage Depot, Inc., was incorporated and the building at Fifth and Los Angeles streets was opened September 23, 1919.

The mileage of boulevard roads covered by all the union depot lines totals 2,500 miles, and through tickets from San Francisco to San Diego are sold. Sunday excursions are taken for various distances by residents along the routes. Many of these do not own automobiles. By means of the stages they not only obtain outings, but know their state the better. Incidentally and of much importance, they become strong advocates of the best possible roads; so that the business not only is profitable directly to operators and their customers, but to all commerce.

Probably the first company to operate a motor stage line in Northern California started early in 1915, with a route between San Francisco and San Jose, 50 miles, using six machines. Today this line is operating 27 machines, and another is running 70 out of Stockton. That the state is networked with lines is obvious to anyone traveling through it. Recently a "Motor West" man, passing north through the busy San Joaquin Valley, noted it in every town.

One of the earliest, if not the first, motor stage lines in the state started in an odd manner in Imperial County. Back in 1911 Thomas E. Morgan often was asked for rides in his car. This gave him an idea which has become a very large enterprise. He began to run two stages, with a schedule and regular fares, between El Centro and Imperial. By degrees other lines were started. Superiority of the service over the morning and evening train service compelled it to grow, to keep pace with the great impetus it was giving commerce.

Competition came, but Morgan, organized, survived those wildcat days and bettered his service. Today the United Stage Lines operate not only in Imperial Valley, but as far north as Santa Barbara. Of the 65,000 persons it carries per month, 46,000 travel between Imperial Valley points alone, the monthly mileage there being 150,000 out of a total of 283,890. The company operates 85 stages.

The name Pickwick was adopted in 1912 by the San Diego Motor Transportation Co., which from 1911 operated into Imperial Valley and had its ocean terminal in the Pickwick theater building in San Diego.

In the beginning, motor stage travel was mostly a mat-

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ter of city flivvers. Various owners began carrying passengers in 1912-13, charging various fares. Conditions in traffic and business generally made them prosper. Others, owners or drivers who leased from owners on a percentage plan, entered the field. There were somewhat informal partnerships.

Tickets began to replace cash fares. Sales at cigar stands, etc., developed so that some men found it easy to print and sell tickets and then skip, instead of remitting a share to the operators. There were other difficulties. In some larger cities, notably Los Angeles, irresponsible men helped toward their own undoing, which was greatly desired by street car companies.

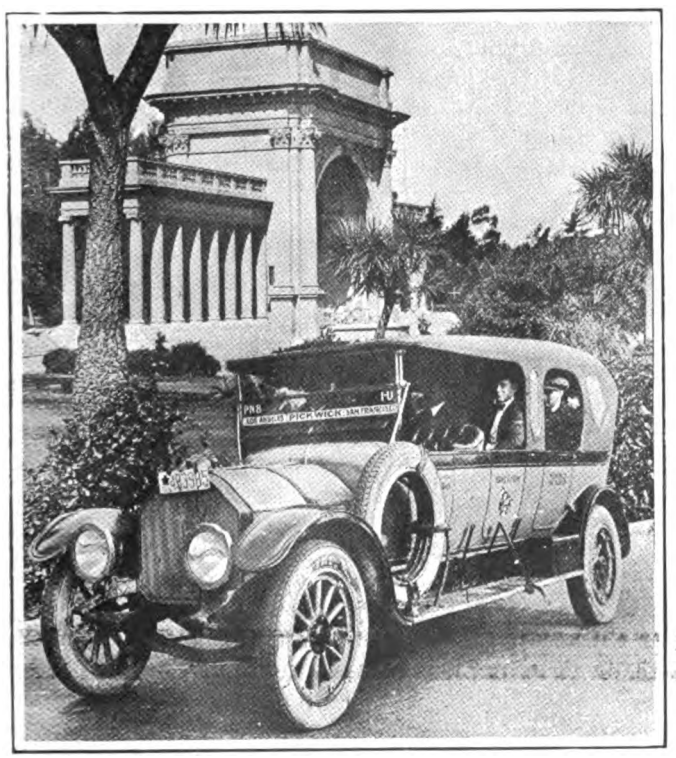
This, however, was temporary and did not stop the evolution. The more stable operators came closer together, for protection. They specialized on out-of-town routes. Organization grew. So did the size of the vehicles. Rudimentary terminals were established. Men of money and method became interested. Schedules were started. In 1917 marked progress was made and maintained.

This form of travel has become as dependable and luxurious as that of a vestibule train, and it has a thrill and closeness to nature that the train has not. It is being adopted rapidly in all the Coast states. In California, the development since an article on the subject appeared in "Motor West" about a year ago has been phenomenal. The reason is simple—quicker, better service for less money than railways charge. Motor stage fares are among the rarities which have not risen.

It is argued that the stages are not replacing railways. They operate under state franchises obtainable only by showing the State Railroad Commission that there is need of the service because of inadequate railroad facilities. The argument is legal and, to a degree, correct; but the fascination of the new travel, and its lower cost in money and time, do make it a powerful competitor of the rails where both methods are used.

There is a spirit of co-operation between the people and the motor stage companies which is denied the railways. Representatives of stage companies are welcomed by the town authorities as harbingers of service. This condition of good will is a very valuable business asset to the stage companies. It will count when their stock is available to the public.

As to freight, the situation was reviewed recently in "Motor West" in a report showing that more than 600 motor carriers of passengers and freight, covering more than 4,000 miles of highways of all types in California, met in Los Angeles. At that time the name California Highway Transportation Association was discarded and the name Motor Carriers' Association of California was adopted. Every center operating 25 or more passenger carriers or trucks will have a representative in the state body, and manufacturers and dealers will be associate members. When the organization is completed it is expected to represent fully 8,000 miles. O. R. Fuller, head of the two White lines and the Eldorado, is president. Active work is to be done by an executive committee to build up motor transportation, freight and passenger; bring about union terminals, and so on.



AT ONE END OF A MARVELOUS SCENIC JOURNEY.

Municipal music stand in San Francisco, San Francisco terminal of the Pickwick Northern Line, which travels a route of remarkable scenic beauty.

Working On Car Shortage Problem

Recently 12 representatives of the National Automobile Chamber of Commerce and members conferred with the Car Service Commission of the American Railroad Association in Washington. As a result the commission sent an important statement to the railroads, urging that in addition to complying with the car service rules whereby 52,000 automobile cars owned and urgently needed by Ohio-Indiana-Michigan railways will (or should) reach them quickly, some 32,000 more cars owned by western, southern and eastern lines be sent, not home, but to the Ohio-Indiana-Michigan territory, to be promptly loaded and then sent home; thus bringing immediate relief as well as relocation of cars. This is not to prevent loading with automobiles outside of the region named, so long as car service rules are observed in the routing. The commission is placing a representative in Detroit, and facilities everywhere are to be bent on directing to that section the widely scattered cars.

The period of maximum requirements for automobile loading is at hand. In the past few weeks large numbers of shipments have accumulated, and there have been many driveaways for short distances, to distribute loading.

The appeal of the Car Service Commission to the railroads states there are more than 15,000 automobiles and motor trucks—about 8,000 carloads— in the Michigan-Toledo zone, stored, awaiting shipment. This represents about $21,000,000 borrowed to finance the business pending delivery, at an interest cost of say $100,000 per month, and it is estimated these amounts are doubled by the part-way driveaways, which will cease, and congestion probably increased, as soon as spring softens highways. Curtailing or stopping production might ensue, affecting thousands of mechanics, the financing of the industry amounting to $6,000,000 per day in finished product, and affecting allied industries similarly, as well as automobile and truck dealers everywhere.

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Established 1907

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APRIL 1, 1920

A Cordial Invitation to Automotive Men

Hotel accommodations, East and West, are uncertain. It's inconvenient as to mail. Have it sent care "Motor West," with forwarding instructions or to hold for you. While here, use our extra office facilities. You're welcome.

A Variety of Engineers Is Needed

EVERYBODY'S doing it—talking production; but not everybody is producing. Why? Because co-operation is lacking.

As Lon Smith says, on the whole the problem is one for engineers; but not only for mechanical engineers.

In the largest sense, what is engineering? Getting things done! A variety of engineers is needed, and the ones most needed are those who can produce co-operation—who can cure us of cave dwellers' avarice, from which we are not yet far removed. We should learn thrift, production, simple but accurate thinking—but with true co-operation.

Where are the engineers who can bring this about? You are one. George is another. Do your part.

Since the world began, collectively we have sometimes struggled away from the bone-grabbing instinct, but always we have slipped back into the primordial rut. All we have done to the habit, really, has been to put clothes on it.

Every one of us knows that if we will take the best hold we can on the simple idea of co-operation, and push the good thing along, any old way, instead of fishing around for formulas for letting George push while we ride, better formulas will occur as we go, and we will land in Happyland without having to die to do so.

Great Danger of Federal Aid Ceasing

MUCH legislation that would be of very great benefit to the people will not be passed by the present Congress. If there is no legislation for continuing the present Federal aid after June 30, 1921, when present appropriations for post or commercial roads and forest roads expire, it will be an economic catastrophe. Every person who knows the absolute need of enlarging the scope of transportation must realize this.

The catastrophe can be averted if the people so instruct Congress. They must do it. It can be done in various ways—by letter to Senators and Representatives, is one way. In addition to that, and a better way, is organized presentation of the subject through newspaper articles, particularly editorials.

Proposed plans for a national highway system have nothing to do with this immediate need. Whether you favor the national Townsend plan, or Scott-Raker plan, or any other plan, forget it until the immediate need is attended to.

There are before Congress, in both houses, measures providing for continuing the present post-road Federal aid after June 30, 1921, at the rate of $100,000,000 a year for four years, and for forest roads at $10,000,000 a year for ten years. Urge the passing of this legislation!

Blame It on the Bus, Truck and Tractor

WITH certain subjects in mind, one sees numberless references to them in newspapers, the significance of which ordinarily would not be noticed. Two recent ones:

The manager of tramways (street cars) in Edinburgh, Scotland, recommended that motor buses be used instead of certain city lines. As a result, thirty 40-45 buses are now in operation there.

Of all business men, farmers have the least method for keeping account of costs. One of the most successful ranchmen in Kansas, when informed by the State Board of Agriculture that it costs $157 to keep a horse a year, expressed his astonishment and immediately remarked: "I am going home and sell eight of mine."

If newspapers, by far the most potent conveyors of "news," would find means to spread the bushels of real news, of vast economic value, to obtain which many millions of the people's money is spent, and most of which is buried in official books and documents, the nation's progress would be greatly facilitated.

Wondered Where the Graveyards Are

THERE were many expressions of surprise and enlightenment from hundreds of automotive men who came to the Coast after the so-called national shows. They were experiencing a show of real national significance, and showed it. This winter's hegira from the Middle West and East will do more than that of any previous season to bring more manufacturing, better distribution, more generous deliveries, to the whole Pacific region.

The manufacturing outlook is of particular interest. There is a connection between it and a question asked by recent visitors as to where we keep our cemeteries. They are here, but far fewer than back there; placed so they do not obtrude upon the everyday view; yet, when seen, actually pleasing. It is even a fine country in which to be dead—but the point is, the ratio of dead ones is smaller. Look at the suburban social items—back there, far too much illness news; out here, relatively very little. This signifies a great difference in health, hence in productive energy. The old stuff about the Southern part of the Coast, especially, being afflicted with semi-tropical lan-

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guor, must have seemed odd to recent visitors who had never encountered a more refreshing climate in conjunction with so much of delightful sunlight. The realization means more factories on the Coast.

Publicity Shows Trend of the Times

THE capable publicity man studies current news and the undercurrents beneath, for topics which will make newspapers and trade journals accept and print matter in which the publicity man's boss, or the boss's product, is mentioned.

Such matter is accepted according as it is underdone or overdone, and necessarily also according to supply and demand. Much of it is quite superior to what is called regular news. It is real news.

It is notable that educative, worth-while publicity matter in automotive lines, as well as other lines, shows an increasing trend toward motor truck, trailer and tractor subjects, which now are given much more space than formerly, when the passenger car was king in automobile prints.

Reveries of a User of Gasoline

A GREAT corporation puts up the price of oil, and raises gasoline two cents. It explains that this raise in the price of "gas" is to protect the Coast from a famine threatened by absorption of the precious liquid by purchasers in the East. The State Railroad Commission says the explanation is "inadequate." As that body usually does not talk without having facts, probably its comment is accurate. The query arises in the average mind, why a raise of two cents, instead of one cent, or a fraction of one or two?

Price fixing, opposed to the law of supply and demand, ordinarily fails; but anything except death can be successfully opposed in the right way. In Dallas, Texas, a commission appraises property values and fixes maximum rentals to prevent profiteering. By the same method minimum and maximum prices of all commodities and services, could be controlled by representatives of the people. So could hoarding.

Skyrocket Stuff Slows Progress

AN alleged newspaper man sends out an "exclusive dispatch" quoting the president of Pennsylvania's state aviation organization as saying he will tour the country a year to talk on a national aeronautical program, and that if the people will bear with him that long he will then try to go to Mars in a huge rocket.

Assuming that his talk will be worth while, why follow it with a journey apparently so useless? Why not send, instead, the writer who would cook up such "news," and hope that he hits Mars hard, or, failing to hit it, keeps on going away from here?

Newspapers should spread genuine news of the present sanity, safety and commercial and other values of aerial transportation, instead of such rot.

Effect of Automobiles on Stove Prices

MANUFACTURING centers report that prices of gas ranges, cooking utensils and ice boxes will be about 25 per cent higher than a year ago, or about 100 per cent above pre-war prices, and that production is far below normal. Smaller unit production by factory workers, and lack of apprentices, is partly to blame. A contributing cause is the quantity of sheet steel consumed in automobile manufacture.

Locality counts. Millions of people on the Pacific Coast heat their houses with little sheet metal "airtights" which, though priced about 100 per cent more than before the war, are obtainable for less than $5; and the fuel—rolled-up newspapers, bituminous briquettes, etc.—costs less than $5 per year. The people east less cooked food, and cook themselves less around any stove, than folks back East. Their gasoline fuel is burned out of doors.

Concerning the California Bond Issue

CALIFORNIA'S legislature suggested a $40,000,000 state highway bond issue, and a map. The people voted for both. The recent attempt to market $12,000,000 of the bonds, to fit the year's program, resulted in selling only $3,000,000 of bonds which the state board of control had taken. Of course the sale was at a discount, in effect cutting the restriction as to par price and 4½ per cent interest. County highway bonds without such restriction sell like hot cakes.

The program will proceed, with hopes for good selling luck as time passes; but it's an example of trying to do with artificial laws what can only be done by the law of supply and demand. A merchant often cuts his intended price to clear the shelves and speed the turnover. States and nations must follow the same principle or be hindered in their progress.

Brazil is losing, the Far East gaining, in rubber production. Trees are transplanted easily and conditions are healthier and better otherwise.

Norway is agitating for a law that motor trucks of two or more tons capacity must have pneumatic tires.

In Atlantic City, most places which ceased as saloons now are automobile stores.

Calendar of Coming Events

March 27-April 3—Los Angeles Motor Truck Show; R. M. O'Neill, manager.

March 30-April 4—First Annual Pacific Coast Automotive Equipment Exposition, Auditorium, San Francisco, Cal.

April 21-28—First Pacific Coast Aeronautical Show, Auditorium, San Francisco, Cal., auspices Pacific Aero Club.

April 22-24—Imperial Valley Automobile Dealers' Show, El Centro, Cal.

May 5-8—First Annual Orange County Motor Car, Truck & Tractor Show, Anaheim, Cal.; auspices Orange County Automobile Trades Assn., Walter W. Biddick, manager.

May 7-8—Fourth Annual Los Angeles-Camp Curry Economy Run.

May 17-22—National Ship-by-Truck Week.

May 17-22—East Bay Ship-by-Truck Tour, auspices Alameda County Automobile Trades Assn.

May 23-28—Pacific Coast Advertising Clubs Motor Caravan, Portland, Ore., to Stockton, Cal.

May 31—Indianapolis 500-Mile Speedway Race.

June—First National Motor Reliability Run, A.A.A. sanction, start Omaha, Neb.; C. P. Root, manager.

July 5—Tacoma, Wash., 225-Mile Speedway Race.

August—Elgin, Ill., Road Race.

September—Glidden Transcontinental Tour, New York City to San Francisco.

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Seattle Show Opens Season

That Five-Floor Exposition Can Be Made Success Is Proved by Attendance of Fully 24,000 Persons

THE greatest automobile show ever seen in Seattle, Wash., reached its close Saturday night, March 20, as demonstrators delivered their perorations for the last time, orchestras played their final numbers, prospective purchasers bestowed upon their favorites a farewell glance and the crowds melted away.

Twenty-four thousand persons, intimately or casually interested in things automotive, passed through the various exhibits during the six afternoons and evenings of the show. The 1920 Automobile Show drew its visitors not from Seattle alone, nor from Washington west of the Cascades, but from some of the remotest corners of the Pacific Northwest.

This year's show held forth in a five-story building, at Fourth Ave. and Columbia St., the recently completed home of one of Seattle's largest garage establishments. Five floors were thus given over to display of cars, trucks and accessories. Automobiles were exhibited on the second, third and fourth floors; accessories on the first floor; trucks in the basement.

The Seattle event followed the recent show held in Portland, Oregon, and practically concludes the show season in the Pacific Northwest. The Seattle show building gave 75,000 square feet, compared with the 36,000 square feet in the Ice Palace at Portland, although in the Oregon city motor trucks were exhibited in a separate show.

The Oregon show surpassed in number of different makes of passenger cars and total number of models displayed. Seattle showed a total of 126 individual passenger cars; Portland, 166 cars. As regards make of cars, Portland had 68, Seattle, 56 separate lines on display. In trucks and accessories exhibited Seattle had the advantage.

The spacious garage building in which the Seattle show was held had both advantages and disadvantages. The all-at-once impression given by the expanse of the exhibits had they all been on one floor was naturally lacking, while the five-floor arrangement could not but be inconvenient at times. A massed spectacle would have been at once more convenient and more impressive.

However, the dealers exhibiting expressed surprise and pleasure at the way the five-floor plan worked out. The display of machines on the various tiers gave the exhibitors opportunity to manipulate the setting of their product with a skill and art that kept spectators filled always with an interested what-next feeling of anticipation.

This year's show surpassed all previous ones of the kind held in the Pacific Northwest in the way of elaboration in decorations. Hand-painted canvases, done by the same artist as those which graced the Portland show, breathed back from the walls aura of the outdoors and the exhilarating possibilities suggested by miles of smooth boulevard and the highly developed motor car of today.

Following the show's close there was a general expression of satisfaction, of expectations well filled, from the dealers, even though it was stated that the far-reaching effects could not at once be appreciated. Every phase of activity connected with the automobile was quickened by this muster of the best the year 1920 had in store for Pacific Northwest car and truck buyers.

Sales of cars on the show floors were better than anticipated, 30 cars being sold on one floor when the show closed, exhibitors on the other floors being little less busy, according to Show Manager William J. Coyle.

Each day was a special day at the show, Tuesday being civic clubs and associations' day; Wednesday, fraternal organizations' day; Thursday, industrial and commercial day; Friday, Elks' day; and Saturday, dealers' day.

The last day, Saturday, saw the get-to-gethering of between 300 and 400 automobile and truck dealers from all parts of the state, from Oregon, Idaho and Canada. Three hundred and forty-seven dealers sat down to a banquet and hearkened to discussion touching all of the industry's manifold phases.

Exhibitors at Seattle Automobile Show

PASSENGER CARS.

Franklin-Wicks Co.—Franklin.
Parsons Motor Car Co.—Stutz.
Northwest Motor Co.—Packard, Hudson, Nash, Essex.
Eldridge Buick Co.—Buick.
W. L. Eaton—Dodge Brothers.
Dixie Motor Co.—Dixie Flyer.
Mitchell Motor & Service Co.—Jordan, Mitchell, Grant, Briscoe.
Olsen-Warren Motor Co.—Peerless, Velie.
Summit Motor Car Co.—Davis.
Greater Motors Corp.—Templar.
William T. Patten Motor Co.—Chalmers, Maxwell.
Seattle Auto Sales Co.—Chandler.
Austin-Moseley Co.—Oakland.
Shields-Livengood Motor Co.—Lexington.
Bardshar Motor Co.—Allen.
Sunset Motor Co.—Cadillac, Hupmobile.
Willys-Overland Pacific Co.—Overland Four, Willys-Knight.
Ford Motor Co.—Ford.
Sands Motors Co.—Studebaker.
North Coast Auto Co.—Cleveland.
Kimball Motor Car Co.—Apperson.
Cascade Motor Co.—Stephens Six.
Seattle Motor Car Corp.—Elgin.
Frank Waterhouse & Co.—Marmon, Kissel.
Motors Distributing Co.—Apperson, Geronimo, Texan.
Great Western Motors—Paige.
Zbinden-Dodge Motor Co.—Auburn.
Hainsworth Motor Co.—Oldsmobile.
The Winton Co.—Winton.
Victory Motor Car Co.—Haynes.
Roy W. Corbett—Raulang, Milburn Electric.
Hoffman Motor Car Co.—Pierce-Arrow.
Stanley Auto Agency—Stanley Steamer.
H. B. Fowler—Commonwealth.
Comet Motor Sales Co.—Comet.
Shields-Livengood Motor Co.—Liberty, National.
Meritt-Goble Co.—Columbia.
United Motors Co.—Cole, Reo, Dort.
Standard Motor Car Co.—Westcott.

MOTOR TRUCKS.

Olsen-Warren Motor Co.—Velie, International.
Shields-Livengood Motor Co.—Traffic.
Diamond T Truck Co. of Wash.—Diamond T.
Northwest Motor Co.—Packard, Nash.
Great Western Motors—Paige.
Garford Motor Truck Co.—Garford.
Comet Motor Sales Co.—Comet.
Eldridge Buick Co.—GMC.
Kelly-Springfield Truck Sales Co.—Kelly-Springfield.
Mitchell Motor & Service Co.—Fageol, Jumbo.
Scott E. Bird—Republic.
Frank Waterhouse & Co.—Kissel, Vulcan.
Mantell-Denby Co.—Denby.
Vernon A. Smith Motor Car Co.—Day-Elder.
Commercial Motors Co.—Commerce, Moreland.
United Motors Co.—Reo, Bethlehem.
Hoffman Motor Car Co.—Pierce-Arrow.
Ford Motor Co.—Ford.
Western Motor Sales Co.—Kleiber.
Wm. L. Hughson Co.—Federal.

ACCESSORIES.

Washington Automobile Chamber of Commerce.
W. L. Eaton.
Tripple & Co.
Northwest Utilitor Co.
Stewart Products Service Co.
Sales & Service Co.
Central Ford Agency.
Auto Camp Bed Co.
Double Service Air Stand.
Day & Night Auto Signal Co.
Boyd Shoe & Rubber Co.
McDonald Auto Camp Bed.
Scott Telecator.
R. B. Goff Mfg. Co.
Kane Shock Absorber.
Piper & Taft.
Alemite Lubricating Co.
Stanley Auto Agency.
Lamping & Co.
Double Seal Piston Ring Co.
Jack Knife Windshield Co.
Charles S. Harper, Inc.
Gill Piston Ring.
Littell Machinery Co.
McKenzie-Waterhouse Co.
Stuart G. Thompson.
Seattle Tent & Awning Co.
Chauncey Wright Restaurants Co.
W. C. Garbe.
Ernst Hardware Co.
Sunset Electric Co.
Northwest Mutual Fire Assn.
Hoyt & Eicks.
Tire Equipment Co.
Los Angeles Auto Lock Co.
Auto Bumper Service Station.
Motor Products Sales Co.
Wicks Tire & Products Co.
John S. Baisden.
Absolute Auto Lock Co.
Automotive Service Co.
U. S. Sales Co.
Champion Spark Plug Co.
Sewell Cushion Wheel Co.
Paragon Tool Co.
Seattle Storage Battery & Supply Co.
Monogram Oil Co.
Cordes & Co.

History shows only manufacturing cities endure, and only in agricultural countries. Dad, send the lad to a farm college; also, motorize your farm.

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JOHNSON'S RADIATOR CEMENT

THE easiest and quickest way to repair leaks in radiators, pumps, water jackets, motor head gaskets, hose connections, etc., is with Johnson's Radiator Cement. It will stop leaks in from two to ten minutes without laying up the car. It requires no experience to use Johnson's Radiator Cement—all you have to do is to remove the radiator cap and pour the Radiator Cement into the radiator.

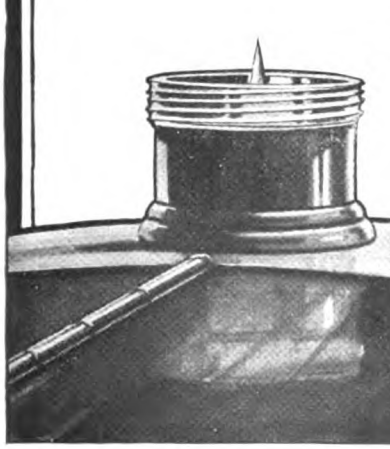
Quick—Efficient—Harmless

Johnson's Radiator Cement contains nothing which can coat or clog the cooling system and is absolutely harmless in every respect. It blends perfectly with the water until it reaches the leaks. Just as soon as it comes in contact with the air it forms a hard, tough, pressure resisting substance which is insoluble in water and consequently makes a permanent seal.

Keep Your Car Young with Johnson's Car Savers

Start today to reduce the depreciation of your automobile. An hour or two every month and JOHNSON'S CAR SAVERS will prove their value in dollars and cents when you come to sell or turn in your car.

Johnson's Carbon Remover—prevents 80% of engine trouble.
Johnson's Stop-Squeak Oil—a wonderful spring lubricant.
Johnson's Valve Grinding Compound—gives a velvet seat.
Johnson's Cleaner and Prepared Wax—make body, hood and fenders look like new.
Johnson's Black-Lac—the perfect top dressing.
Johnson's Auto-Lak—a splendid one coat body varnish.
Johnson's Hastee Patch—can be applied in two minutes.



Write for our folder on "Keeping Cars Young" —it's free.

S. C. JOHNSON & SON
MW 4, Racine, Wisconsin
U. S. A.

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Now World's Swiftest Track

Milton, Duesenburg, Wins Final of Three Fast Fifties on Los Angeles' New Mile-and-Quarter Speedway

NOW that the two-mile track at Sheepshead Bay, New York, has been dismantled, the 1¼-mile Los Angeles Speedway ranks as the fastest in the world. At the second meet held on it last Sunday, March 28—just a month after the opening meet—Tommy Milton, Duesenberg, won the final of three 50-mile heats in 26 minutes 52.20 seconds, averaging 111.8 miles per hour—practically as high speed as Ralph De Palma, Packard, made in his record ride at Sheepshead, June 14, 1919. De Palma's time was 26 minutes 23.40 seconds.

In Sunday's race Art Klein, Peugeot, was second in the final, in 26 minutes 58.60 seconds, averaging 111.3 miles per hour. Third man was Eddie Pullen, Richards, in 26 minutes 58.80 seconds, averaging 111.2 miles per hour; fourth, Roscoe Sarles, Frontenac, 27 minutes 29.80 seconds, average 109.3 miles per hour; fifth, Jimmy Murphy, Duesenberg, who finished outside the money.

Hearne, Frontenac, was out in the thirty-fifth mile of the final. Boyer, Frontenac, was out in the eighth mile. Both had qualified in the first heat, in which Hearne, piloting a Stutz, coasted over the line, out of commission. In the final he drove the Frontenac in which O'Donnell, failing to qualify, had finished fifth in the second heat.

The first 50-mile heat was won by Art Klein, Peugeot, in 27 minutes 5 seconds. He moved from third to first position in the last lap. Previous to that Milton, Duesenberg, had led from the ninth lap except in the nineteenth, when he was in second position. Thomas, Frontenac, who was in fourth position most of the distance, was out in the next to last lap. Vail, Philbrin, was out in the fourteenth.

The second 50-mile heat was won by Murphy, Duesenberg, in 27 minutes 10.80 seconds. He was in fifth position from the fourteenth to the twenty-first lap, when he was fourth; then three laps in third position, one lap in second, then first to the finish. None dropped out in this heat.

The total purse was $15,000. Milton received $2,000 for winning the 50-mile championship event and $300 for the fastest 50-mile heat. Klein and Murphy each received $1,500 for winning first and second heats, respectively. The four first men in the final won prizes, and each starter received $400.

The racing was terrific. Mere comparison of figures does not describe it. Milton's average, 111.8 miles per hour, was 8.6 miles faster than when Murphy, in a non-stop run, won the recent opening race of 250 miles. The actual speed picture this time was a wonder. The track was not crowded, so that when one pilot passed others they sometimes seemed to be standing still. The fastest five laps were at 112.2 miles per hour. There were no accidents.

It was a glorious day, with "wine in the air." Most of the 20,000 spectators were in the main grandstand, facing north, with the foreground filled with speed and the wondrously colored scene beyond ending with snowclad mountains at the skyline. The attendance was affected by a superb cowboy tournament at Ascot Park—cowboys are vanishing, the Speedway is permanent. Those who went to the Speedway were wildly enthusiastic. Veterans said they had never seen anything like it.

A bad start in the second heat caused Frank Lowry to send them away again. This did not slow the meet a particle. While the fastest time was in the final, most of the whirlwind action was in the preceding two.

Motor and tires troubles were not frequent, but important. For example, Jimmy Murphy, after winning the second heat, seemed a very lively prospect for first in the final. He had the same tires on which he had captured the 250-mile race. He was forced to change in the fifteenth lap, lost a lap, and though he went like a streak afterward he did not regain sixth position till the twenty-seventh lap, moving up to fifth in the thirty-second and finishing thus. The crowd had sympathy for every one whose motor or tires gave him discontent. Every money-winner in all three heats used Goodyear cord tires.

From a carburetor standpoint a glance at the equipment on the high-class racing cars seen in action at the first two meets on the new Los Angeles Speedway shows to what extent the Miller monopolizes the racing field. Out of eighteen cars competing seventeen were equipped with Millers. It was in the summer of 1916 that the first Miller carburetor was put on a racing car in an important event; the car was Rickenbacker's Maxwell, and the event was the 150-mile on the Sheepshead Bay Speedway.

Rickenbacker won—fortunately, perhaps, considering the percentage—but the drivers were quick to see the possibilities of the new carburetor and Millers began to replace all others rapidly from then on. This has been the accomplishment of the last three seasons, and considering the fact that the Miller Company has never given any driver anything but the carburetor itself, the inference is that the instrument must be suitable for the purpose.

Last year at the Indianapolis 500 mile race twenty-six of the thirty-two cars were Miller equipped, and this number included two of the French drivers who had never before considered anything but French-made carburetors. They took the new instrument purely on the strength of

Tabulated Record of the Three 50-Mile Events, Los Angeles Speedway, March 28, 1920.

FIRST HEAT.

Positions at 10-Mile Periods.

No.	Car and Pilot.	10 mls.	20 mls.	30 mls.	40 mls.	50 mls.	Time.	Miles per hr.
29	Peugeot, Klein	3	2	2	3	1	27m. 5s.	110.8
9	Duesenberg, Milton	2	1	1	1	2	27m. 5.20s.	110.4
7	Frontenac, Boyer	4	3	3	2	3	27m. 5.22s.	110.3
8	Stutz, Hearne	5	6	6	5	4	Coasted over line out	
3	Frontenac, Thomas	1	4	4	4	Out	of commission.	
17	Mercedes—J. De Palma	7	5	5	6	Out		
14	Philbrin, Vail	6	Out					

SECOND HEAT.

Positions at 10-Mile Periods.

No.	Car and Pilot.	10 mls.	20 mls.	30 mls.	40 mls.	50 mls.	Time.	Miles per hr.
10	Duesenberg, Murphy	4	5	3	1	1	27m. 10.80s.	110.3
2	Richards, Pullen	1	3	1	3	2	27m. 27s.	109.3
4	Ballot, R. De Palma	2	1	2	2	3	27m. 37.60s.	108.8
5	Frontenac, Sarles	5	2	5	5	4	27m. 42.20s.	108.3
6	Frontenac, O'Donnell	3	4	4	4	5		
15	Hudson, Hill	6	6	6	6	6		

FINAL HEAT.

Positions at 10-Mile Periods.

No.	Car and Pilot.	10 mls.	20 mls.	30 mls.	40 mls.	50 mls.	Time.	Miles per hr.
9	Duesenberg, Milton	1	1	1	1	1	26m. 52.20s.	111.8
29	Peugeot, Klein	2	2	2	2	2	26m. 58.60s.	111.3
2	Richards, Pullen	3	4	4	3	3	26m. 58 80s.	111.2
5	Frontenac, Sarles	5	5	5	4	4	27m. 29.80s.	109 3
10	Duesenberg, Murphy	6	7	7	5	5		
4	Ballot, R. De Palma	4	3	3	6	6		
6	Frontenac, Hearne	7	6	6	Out			
7	Frontenac, Boyer	Out						

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MILEAGE PLUS

The AD-MOR-MYLER inner sole tire introduces a new principle into tire engineering.

The perfect tire of no punctures, no blowouts, and long life, is practically achieved by this new principle of the AD-MOR-MYLER inner sole tire.

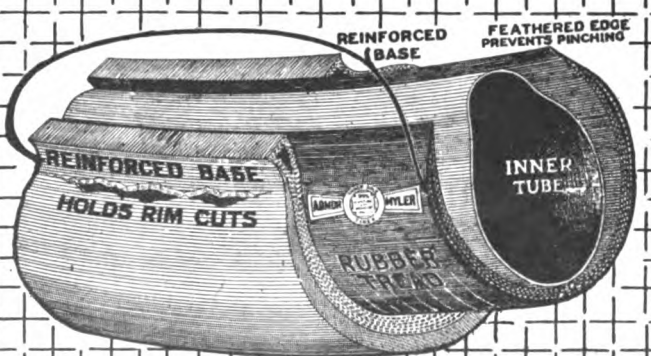
Cemented in a brand new casing, it will assure you are getting 100% efficiency from every tire, doing away with all blowout and puncture trouble, expense and worry. Hundreds of motorists have proven that new casings equipped with them do give double the mileage they would otherwise. Write for illustrated folder.

LIVE DEALERS WANTED EVERYWHERE.

Ad-Mor-Myler Rubber Co.

Los Angeles, Cal.

ADMOR INNER-SOLE 99% PUNCTURE and BLOW-OUT PROOF TIRES MYLER



EY WILL SOLVE
IR TIRE PROBLEMS

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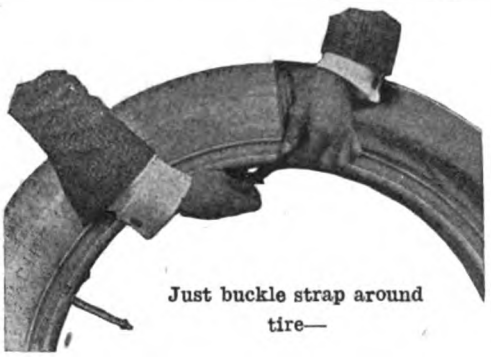
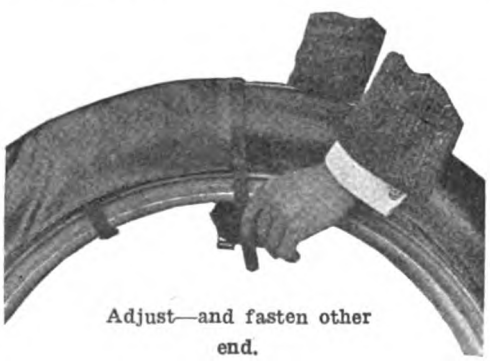
On in a jiffy



Just buckle strap around tire—

Isn't that easy?

—And Economy Tire Covers are just as easy to sell as they are to put on a tire. They just slip off your shelf and onto your customers' tires—leaving behind a trail of easily earned profits. Ask for complete information on Economy Tire Covers, and let these profits slip into your pocket.



Adjust—and fasten other end.

The Bailey-Fitwell Co.

1318 So. Grand Ave. Los Angeles

what it showed them in the way of increased speed and have already arranged by letter to have carburetor ready for themselves and team mates when they arrive next month for this years 500 mile classic.

Everything considered, such universal recognition of so important an engine accessory, coming as it has in such relatively short time, stands as a very creditable performance by the Harry A. Miller Mfg. Co., a Pacific Coast institution.

Elmer Apperson Dies In Los Angeles

Elmer Apperson, founder of the Apperson Brothers Automobile Co., Kokomo, Ind., and claimed to be the maker and marketer of the first automobile, died of apoplexy in the field hospital during the races at the Los Angeles Speedway last Sunday, March 28. He came to Los Angeles January 15 and attended the races with Mrs. Apperson. He seemed to be in good health when the stroke came. He was 58 years of age. He is survived by two brothers, Edgar, who is president of the Apperson company, and Oscar Apperson.

The pioneer automobile with which Mr. Apperson's name became historic was built by him in association with his brother Edgar, and Elwood Haynes, in the Riverside Machine Shop in Kokomo in 1893. Two bicycle wheels and other rough material served for the single-cylindered machine. It had an electrical sparking device. All parts were made by hand.

The Haynes-Apperson Motor Co. was formed later. Still later the Appersons formed their own company and Haynes did likewise.

In 1901 Mr. Apperson piloted his machine in the first automobile road race held in this country, which started at New York, but ended in Rochester instead of Buffalo, the cause being the assassination of President McKinley.

How the name "Jackrabbit" happened to be applied to the Apperson is now recalled. About 18 years ago the company's Chicago representative was "Jack" Fry, for whom the factory built a car with cylinders of unusual size, in a stock chassis. Its quick pickup made a friend call it "Fry's rabbit." This became "Jack's rabbit"—hence "Jackrabbit."

Canada Second In Automobile Making

Canada now is second to this country in automobile manufacture, number of machines, and in their percentage to population. Government facts show 15,000 workers and an investment of $50,000,000 in; 1919 payroll, over $15,000,000; 94,000 machines made in 1919; total sales, $100,000,000. A 35 per cent increase this year is expected. Registrations show about 350,000 cars in the country—one to 23 persons.

"Tire Instruction" Book Worth Having

"Tire Instructions" is the simple title of a very attractively gotten up booklet issued by the Roy Mattice Tire & Vulcanizing Co., of 1229 S. Grand Ave., Los Angeles, which treats of tire problems and tire economy with a scope generally found only in publications issued by the large tire makers.

The Mattice booklet classifies tire troubles as arising from premature tread wear, caused by misaligned wheels; misapplication of tire chains; neglect of tread cuts; unevenly adjusted brakes; under-inflation; fabric breaks; and driving in car tracks and against curbs.

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Why Gas Jumped Two Cents

Standard Oil Man's Explanation of Raise Made in Fuel and Oil Prices, and Data on the Situation

THE one black cloud on the horizon of the automobile's development and increase, scarcity of gasoline, looms suddenly larger and darker than ever before as a result of events during the past month of March.

The threat comes in the form of price raises on fuel oil and gasoline, varying from a quarter-dollar on the barrel of fuel oil to a few cents on gasoline retailed by the gallon. It affects not only the automobile but extends down to the humblest stationary internal combustion engine using what are really refuse products of oil distillation.

Announcement that gasoline would go up 2 cents a gallon in price and fuel oil up 25 cents a barrel came during the second week of March from the Standard Oil Co. of California.

The necessity for the increase was explained by K. R. Kingsbury, president of the Standard Oil Co. of California, as follows:

"These advances in the prices of petroleum products are the natural and direct result of a shortage in petroleum supply, coupled with an increased demand, not only in California, but throughout the country.

"For example, in the East, prices of gasoline have reached such high levels that is is now practicable for Eastern buyers to purchase this product in California, pay all transportation charges and market it at a profit as far east as the Atlantic Today gasoline sells for 28½ cents wholesale in New York, against 19½ cents in San Francisco, a difference of 9 cents per gallon.

"Rail freight from San Francisco to New York is 7 cents a gallon, water freight not to exceed 4 cents per gallon. This gives sufficient margin to make shipments very profitable.

"The movement of gasoline from the Pacific Coast to higher markets has already begun. If continued the Coast supply must speedily be drained away. If protective measures are not taken, if the wide gap between prices here and elsewhere continues to exist, the problem for the motorist and for industry on the Coast will be to get any gasoline or fuel oil at all, at whatever price.

"The manufacturer cannot control the disposition of his product after its sale; hence, no refinery, nor all the refineries on the Pacific Coast combined, can keep California gasoline in California, if it can be shipped east, or exported by jobbers for re-sale at higher prices.

"The increase of 25 cents per barrel, which the company now offers for crude oil at the well, takes prices to the highest point in the history of California. This increase, it is hoped, will result in increased production in California oil fields, thereby offsetting the shortage now forcing upward the price of fuel oil.

"In this connection it may be noted that the price of gasoline has remained practically constant, compared to the increase in the cost of other commodities. In July, 1919, the price of gasoline on the Coast was increased one cent a gallon. This was the only advance made since December, 1916, except an increase of ½ cent a gallon ordered in 1918 by the fuel administration to absorb the general freight increase throughout the country.

"The Pacific Coast supply of fuel oil and of petroleum products is rapidly approaching exhaustion. Since May 1, 1915, crude oil stocks in California have decreased from 60,000,000 barrels to 28,738,921 barrels March 1, 1920."

The company, President Kingsbury states, did not consider profit when advancing prices, but acted simply and solely to protect the fuel oil and gasoline supply of the Pacific Coast, while declining export orders which return larger profits than local sales.

"It is unfortunate, of course," he adds, "that the shortage of water power in California should come at a time when the Coast's oil supply is in so critical a condition. The inability of hydro-electric companies to furnish the normal market with power throws on the oil industry the added burden of former electric power users, who now turn to fuel oil."

Gasoline now sells at 23½ cents a gallon retail and 22½ cents wholesale in Los Angeles and San Francisco. In Seattle it recently retailed at 24½ cents. In Portland, where over-strict gasoline specifications imposed by state law have kept the price higher than elsewhere, it sells at 27½ cents. Curiously enough, at Vancouver, Wash, gasoline continues selling at 21 cents a gallon, due to a "rate war" between filling stations and garages.

Denver saw three increases during March, finally reaching 31 cents. New Orleans, near the Louisiana and Texas oil fields, paid 28 cents, expecting to pay 30 cents in a week or two, according to recent reports. Montana towns pay 50 cents and some Eastern cities between 45 and 50 cents.

Suddenly as price advances came, warnings were in the air as early as the first of the year. Late in January the Standard Oil Co. announced that it had discontinued selling distillate. The reason was that all oil that could possibly produce gasoline must be used for that purpose, which leaves no distillate, as that is but an early stage in oil refining.

The stoppage of distillate production vitally affects not only thousands of economically minded Pacific Coast motorists, but thousands of operators of farm tractors, stationary engines and smaller river and marine vessels of all kinds. Fishermen off the coast of Alaska, river boats around San Francisco and farmers in the Imperial Valley have already felt the effects.

Last year's consumption of gasoline in the United States averaged more than 8,500,000 gallons a day. Only about 20 per cent of crude oil is available for gasoline, the remainder being kerosene, fuel oil, lubricating oil and residue products. California last year produced about one-fifth of the world's oil supply, or 101,221,784 gallons. California and Gulf crude oils yield but 2 to 3 per cent gasoline, while Mid-Continent crude yields between 16 and 20 per cent and Eastern crude, 20 to 30 per cent.

Sir Oliver Lodge predicts atomic energy will become the world's motive power.

Herbert Hoover praises motor trucks. He ought to know.

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Believes Right Spot Found

President Tull Tells Why the California Motor Car Corporation Located Its Plant In Los Angeles.

SIGNALIZING one of the most notable achievements in the automobile industrial development of the West, the first model of the California Motor Car Corporation's product, the Californian, is on display at the showrooms of the Gates-Kelly Automotive Co. in Los Angeles.

The Californian is attracting unusual interest, chiefly because it is one of the most luxurious examples of perfection in the high-priced car class, but partly because it is manufactured in Southern California. The factory is in Los Angeles. It has more than fulfilled all of the promises of its makers and has won almost instant recognition as one of the finest motor car creations in America. While the greater part of the first year's output of the factory, 300 cars, has been absorbed by Pacific Coast dealers, the demand for the Californian by Eastern dealers indicates that it will be a formidable competitor in the national market as rapidly as its production can be increased.

Allison L. Tull, of Chicago, is president of the California Motor Car Corp., and his associates are all successful Eastern business men of broad automobile manufacturing experience. Although Mr. Tull is a pioneer in the Western field, and the first Eastern manufacturer to launch such a pretentious venture so far from the established center of production, he said the future prospects of the Californian have more than justified his faith, and expressed amazement that the wonderful manufacturing and marketing resources of this region have not been taken advantage of by more automobile makers.

Mr. Tull is probably best known in automobile circles as one of the men who organized the successful Elgin Motor Car Corp., which, in a few years, has attained one of the foremost positions of importance in the business. He is recognized as one of the most aggressive and enterprising financiers in the industry, and the men with whom he has surrounded himself as associates and executives have had the experience and ability to give him the utmost co-operation.

Discussing the future plans of his company and the reasons that have made him such a firm believer in the possibilities of Southern California as an automobile manufacturing center, Mr. Tull said that, "while it has been the primary purpose to construct the Californian so that it can cope with the most rigorous use under any and all conditions, stress has also been laid on its beauty of design and completeness of equipment, to provide a car for the exclusive motorist which will be in keeping with the opportunities for perfect automobile enjoyment. The company's aim has been to build a car of such superior strength that it will perform with ease any tasks of service or emergency, but it also realizes the ideals of those lovers of outdoor pleasure who demand absolute comfort and luxurious surroundings. Of course, no efforts have been spared to attain engineering and mechanical perfection.

"Although we have no fear that our product will not be able to hold its own among the highest class cars in the national and world markets," said Mr. Tull, "we expect the output of the next year or so will be absorbed largely by California and the other Western states and the Latin-American countries. Already there is a brisk demand for it in the Pacific states, and we have only begun to make our initial announcements to the trade through the best advertising mediums. We are now planning an extensive national advertising campaign which will be conducted by the MacDonald Co., of Los Angeles, under the personal supervision of its president, J. W. Sutphen."

The Los Angeles factory has an output this year of 300 Californians of the two types designed—a roomy 7-passenger touring car and a stylish 4-passenger sport model. Both have equipment too detailed to mention here, but not a device or accessory for speed, comfort or service has gone into the product that does not meet with the highest requirements. Both models will retail at $4,500, f. o. b. Los Angeles. The output will be increased as rapidly as is consistent with conservative business, and there is every indication that it will be doubled and trebled in the near future.

"The labor situation in California," said Mr. Tull, "was one of the foremost considerations that prompted our placing the factory here, and while this section has a few disadvantages they are more than offset by the fact that strikes, fuel shortages and the hundred and one disturbances that are cropping up in the East periodically do not inttrfere with production here. The shipping facilities are excellent and we are only a few days away from the base of supplies of every sort. For that matter, it will not be long before we will be able to obtain all of our materials in the West. Then there will be so many advantages in favor of this part of the country as a manufacturing center that I expect to see dozens of big motor plants, and manufacturers in other lines of industry, follow our example."

OBSERVE THE STYLISH LINES OF THE CALIFORNIAN.

A Maibohm Man's Plea for Light Cars

The country estate of a few years back was the exclusive possession of those belonging to the leisure class. But times have changed. Today the outskirts of every city are dotted with estates built upon a foundation of gasoline transportation. The light passenger car has made this possible for the man of moderate means. With his speedy machine he can make the distance between country and town on good roads in quick time.

Automobiles are not subject to the limitation of railroad tracks, and it is still possible to obtain an estate in the country, inaccessible by railroad, yet handy to the city via automobile, at a reasonable price.

Living in the country is the only sort of living that is worth while, and the light car enables the man moderately well off to indulge in it as easily as the wealthy man.

That is the way a Maibohm writer will put it, in behalf of the light six, which, he says, will have a powerful influence in popularizing the simple life; in making it possible for the city worker to enjoy a country home in his leisure hours. Its attraction, as a means to that end, is enhanced as it approximates the refinements and comforts of the heavy fellows, with a minimum of expense.

Only Piece of Land Lincoln Ever Owned

Near Denison, Ia., and a stone's throw from the Lincoln Highway, is a rough hilly farm, fit for feeding stock only. It is the only piece of ground Abraham Lincoln ever owned. He never lived on it. It was given him for services in the Blackhawk war.

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Acason THE OWNER FIRST TRUCKS

EVERY Acason IS A GOOD TRUCK

Serviced and Sold in Principal Cities

1 to 10 Ton Capacities — Some Territory is Still Open

Dan Gilkey, Western Manager
Care of Acason Sales Co., 39 Van Ness Ave.
San Francisco, Cal.

C. A. Baer, Assistant Manager
Multnomah, Hotel
Portland, Oregon

ACASON MOTOR TRUCK COMPANY

Exclusively Truck Builders

DETROIT, MICHIGAN

Please Mention "Motor West" When Writing to the Advertiser

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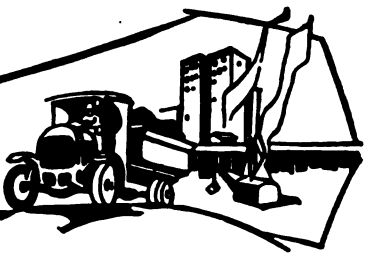
The Car of Commerce



A Meaty Motorization Talk

Wilcox of Commerce Truck Shows Logic of Entering Transportation Business at This Particular Time

MOTORIZED-TRANSPORTATION facts full of kick and logic are presented by G. D. Wilcox, director of sales and advertising for the Commerce Motor Car Co., Detroit. Production is valueless without consumption, he points out; consumption is impossible without transportation; and transportation is useless without production or consumption.

Production and transportation are not proportional to consumption nowadays. That is why wonderful opportunities exist for one entering the motor truck transportation business.

Inasmuch as the production of commodities and merchandise is dependent upon the cost of production and transportation of foodstuffs, it is essential that every possible facility be provided and every practical encouragement be afforded the good producer.

Without food we cannot live. High priced food results in higher prices for labor engaged in its production, as well as for commodities and merchandise necessary to the production of food.

The supply of food must be increased or there will be no real reduction in the cost of living, nor a definite stop put to legitimate higher prices not only for food but for all commodities and merchandise as well.

Nowadays food, minerals and merchandise are transported in this country over approximately 15,000 miles of canals and inland waterways, 350,000 miles of railways and 2,000,000 miles of highways. Airplanes are not yet practical for transportation of food. Canals cannot be extended to provide any substantial relief. Railways, on account of fixed locations of lines and terminals, cannot provide adequate, complete, or direct transportation facilities between all producers and consumers. The railroad question today is about as perplexed as it could be, giving the truck the right of way to dominate in the transportation field. Highways offer the only additional means of communication and transportation.

While the motor truck that will eventually replace the freight car and the street car has not been designed, the motor truck to haul merchandise and foodstuffs has arrived. Those engaged in this business are deriving a good revenue as well as performing a public service, for goods are being transported better and cheaper.

The motor truck will play the biggest part in bringing down the high cost of living. The farmer, assured of fast transportation, at the right price, will produce.

These 26,000,000 food producers will feed themselves and 84,000,000 additional American citizens, together with their foreign friends, and bring the price of foodstuffs down. It is possible that the Government will see the light and extend its motorized postal routes, but the American business man will probably see it sooner and will reap a harvest with truck transportation lines before the government gets into general activity.

That the Post Office Department has its eye on the revenue that could be produced by a network of rural postal routes is proved by figures taken from the postoffice records. There are 60,000 employes of the postal service who traverse 1,400,000 miles of highways, through producing territory, in this country every day. If each carrier would transport 2,000 pounds, the total transported would amount to 120,000,000 pounds daily. The average consumption per man, woman, and child is about two pounds per day. This quantity would feed approximately 60,000,000 people or two thirds of our entire population.

Here is one of the many instances where the Post Office Deparement has saved money for the consumer through its rural motor truck service. On November 12, 1919, 86 crates of eggs—2,580 dozen—were shipped on a Commerce truck from Warsaw, Va., to Washington, D. C., 135 miles. The postal patrons of consumers paid $1,625.40 for this produce, which would have cost them, at the lowest price prevailing in the city on that day, $2,012.40—a net saving of $387. The postal revenue was $54.18.

The scope of motorized transportation is as yet comparatively untouched. The Government realizes the many advantages this type of transportation presents, and every department wants additional truck equipment.

Los Angeles Motor Truck Show Opens

The Motor Truck Show was thrown open to the public at Praeger Park, Los Angeles, Saturdav, March 27th, and will have an eight-day duration. Twenty-four motor truck companies and twenty-one automotive accessory firms are exhibiting. The show will continue during each day and evening of the week, closing April 3rd.

Practically every type of motor transport, from the light delivery car to the ponderous highway freight carrier and all types of farm tractors and a wide variety of accessories which increase the efficiency of the motor truck are to be found unde rthe great canvas tent housing the show.

The show is being held under the auspices of an organization of motor truck dealers, headed by D. F. Poyer, president.

Trucks and Trailers.

Diamond T Pacific Truck Co., Diamond T.
Gary South Coast Truck Agency—Gary.
Four-Wheel-Drive Co., F-W-D.
Kleiber Motor Truck Co., Kleiber.
D. F. Poyer, Transport.
H. G. Pendell, Denby and Duplex.
Bethlehem Motor Truck Co., Bethlehem.
Douglas-Boswell Co., Acme.
Kamp-Miller Sales Co., Apex.
Clydesdale Motor Truck Co., Clydesdale.
Service Motor Truck Co., Service.
W. L. Cleveland Co., United States.
Lewis-Hilliard Motor Co., Indiana.
Woodward Garage & Truck Attachment Co., Inc., Woodward Attachments.
Reliance Trailer Co., Reliance trailers.
Marx Trailer Co., Marx trailers.
D. A. New Comer Co., New Comer trailers.

Accessories and Parts.

Wilkinson Auto Parts Co.
Victory Piston Ring Co.
J. H. Smith Sales Co.
Charles A. Bacon Co.
Spring Life Co.
Sewell Cushion Wheel Co.
Alemite Lubricating Co.
M. W. Preiseler Co.
Pacific Ball Bearing Co.
Splitdorf Electric Co.
Double Seal Ring Co.
Eagle Radiator Co.
Electric Motor Lock Co.
H. M. Waterman Co.
Troup Auto Side Signal Co.
Ensign Carburetor Co.
Standard Auto Body Co.
E. Richard Just, Inc.
Western Wheel Co.
Clark-Turner Co.
H. M. Waterman Co.
Electric Equipment Co.
D. A. New Comer Co.
Bell Tire Co.
W. H. E. Pendleton.
Automatic Light Regulator Co.
Zenith Carburetor.

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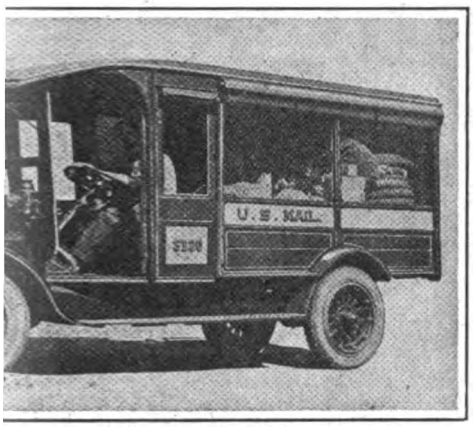

On the Job for Uncle Sam

Commerce TRUCKS

HAULING the mail is hard, exacting work. Mail trucks must meet strict schedules day in and day out—must be swift, economical and absolutely dependable.

On the streets of scores of cities, Commerce trucks are daily fulfilling the exacting requirements of the Postoffice Department in the hauling of mail.

It is the best guarantee imaginable that they can meet the needs of YOUR business.

The COMMERCE MOTOR CAR CO.

DETROIT :: MICHIGAN

FREEMAN A. McKENZIE,
CITY GARAGE, INC.,
05 South Olive St., Los Angeles, Cal.

McCRACKEN MOTOR CO.,
Portland, Ore.

COMMERCIAL MOTORS CO.,
Seattle, Wash.

C. P. KIEL,
1830 Van Ness Ave., San Francisco, Cal.

SULLIVAN TAYLOR MOTORS, LTD.,
1260 Granville St., Vancouver, B. C.

W. B. WOOD,
Pacific Coast District Manager.
1205 South Olive St., Los Angeles, Cal.

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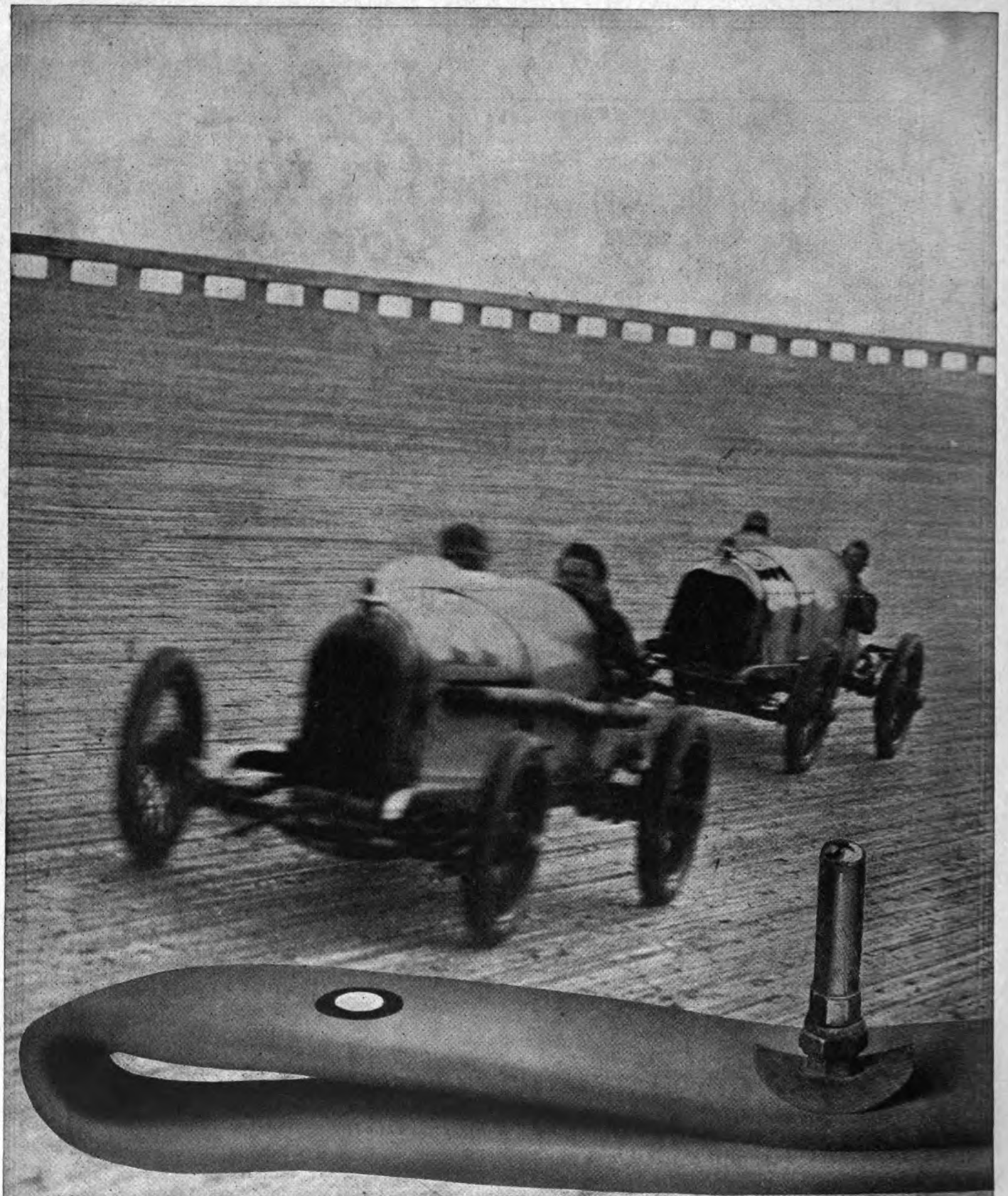

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GOODYEAR

Please Mention "Motor West" When Writing to the Advertiser

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it for Goodyear Mileage Shared by Tubes

Do your customers know that credit for the high mileages of Goodyear Tires is shared by Goodyear Tubes?

As an instance of proof, have you ever called attention to the strain imposed on tubes in the tires of racing cars?

Here, no matter how staunch the casing, it cannot withstand the punishment inflicted unless the tube, also, is flawless.

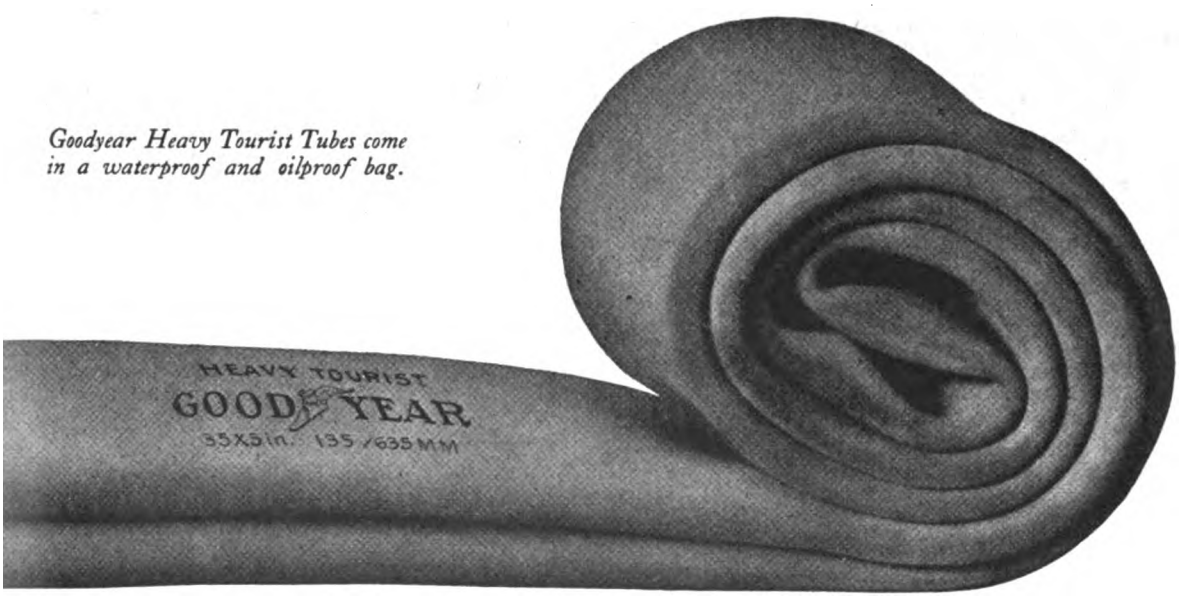
During the American racing season of 1919, every important race of fifty or more miles, on speedway and road, was won on Goodyear Cord Tires.

While this is splendid tribute to Goodyear Tires, it is also proof conclusive of the superior quality of Goodyear Tubes.

Goodyear Heavy Tourist Tubes, just as the Goodyear Tubes so favored by racers, are made of pure gum strips, *built up layer-upon-layer,* thicker, too.

To sell them to your customers is a matter of real service, for long tire mileage depends also on good tubes.

Goodyear Heavy Tourist Tubes come in a waterproof and oilproof bag.



AVY
URIST TUBES

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Wilson dependable MOTOR TRUCKS

Why Do Motor Truck Dealers Make Money?

This is a very frank and important talk to automobile dealers, and those intending to enter the business, relative to the vital question of profits to be made and how to make them

THE established truck dealer who has gained wisdom through long experience knows how easy it is to sell a well advertised motor truck.

And he knows the hardships that come with trying to sell an unknown truck.
It is seldom, therefore, that you find the experitnced motor truck merchant contracting for an unadvertised and unknown account.

He does not want to do the pioneering. He does not want to put his time and resources back of an unknown product. When, for example, he tries to sell a customer the "Blank" truck, he does not want to hear the prospective buyer say: "The 'Blank' truck? I never heard of it!"

You old dealers know that this does not spell success. And you younger ones, and you who are thinking of going into the business, can gather a lesson from the older dealer's experience.

For the American buyer today does not absorb voluble promises and doubtful facts as he may have done in days of yore. He has learned something and he is influenced by, and guided to the door of, the truck maker who has sufficient faith in his product to come out boldly in great advertising channels and state his claims openly to the world—in such reputable publications that the very fact that they publish his claims is a substantial guarantee of their dependability.

The appearance of this advertisement marks the thirty-seventh year of the continuous existence of the J. C. Wilson Company as a manufacturer of heavy duty haulage vehicles—first horse-drawn and then motor-driven. For many years of this time we have been telling the public, through the medium of the great national publications, of the worth of Wilson motor truck construction and the dependability of Wilson truck service.

The result is that the public KNOWS Wilson trucks. In addition to their great mechanical worth they are an advertised asset to the dealer, they possess a GOOD-WILL VALUE which makes sales easier for him, and creates a greater re-sale value for the retail buyer.

The name "Wilson" as applied to motor trucks is so deeply imbedded in the public consciousness, so thoroughly intrenched in public favor, that sales (and re-sales) of Wilson trucks are infinitely easier to make than if we depended upon circulars and postal card campaigns to acquaint the public with our product.

There can be no question about this. What are the big selling passenger cars? What are the big selling soaps? What, even, if you please, are the big selling chewing gums? The answer writes itself, and you know it: They are the passenger car, the soaps, the chewing gums—AND THE MOTOR TRUCKS—whose makers come into the open and state their claims in the great journals of the world.

This is only good, sane sense. If you sell an advertised product you are not up against the continued, heart-breaking barrier of obscurity, of "I never heard of your truck."
It may be that some of you old dealers who read this are getting ready to take on the sale of motor trucks, or that some of you men in other lines of business are thinking of taking up the sale of trucks as a vocation. If you are we would like to hear from you. Perhaps your territory is still open.

Write us. There's money in the business, and it's a clean business—a business man's business.
Let us send you (free) a booklet we have prepared called "Money in Motor Trucks." It is interesting and instructive and will open up to you an avenue for clean profit-making that will be to you an industrial revelation.

1½, 2½, 3½ and 5 tons Capacity---All Worm Drive

J. C. WILSON COMPANY

DETROIT, U. S. A.

37th Year

COMMERCIAL VEHICLE MANUFACTURERS

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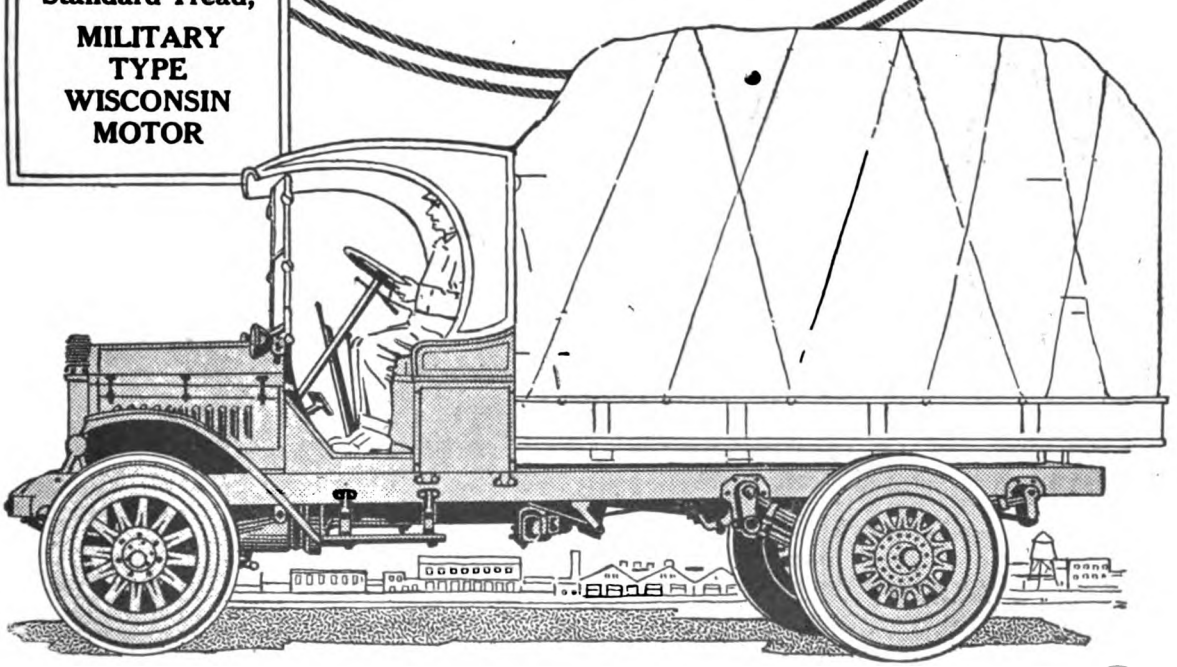
Parker TRUCKS

A Great Deal for Dealers!

MANY units featured forcibly in other trucks do not come up to PARKER STANDARDS. The men back of the PARKER TRUCK, long experienced in in the automotive industry, will have nothing to do with them. They are not good enough for what PARKER is building. That means supremacy in the PARKER worth considering *seriously*. Dealers particularly: *think* where PARKER HIGHER STANDARDS will bring you as a PARKER DEALER. We know where our higher standards are bringing us—and we want dealers who have the big business eye for the future to *join* us. Write now for our PROSPERITY PROPOSITION TO DEALERS.

2, 3½, 5-Ton;
4-cylinder;
Worm Drive;
Electric Started and Lighted;
Standard Tread;
MILITARY TYPE WISCONSIN MOTOR

Parker Motor Truck Company
4603 Linus Street
MILWAUKEE, WISCONSIN
U. S. A.



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Solving Problem of Today

Motor Truck, Tractor and Trailer Hailed as Logical Relief from Dangers of Stampede to the Cities

By W. A. CARPENTER, Advertising Department, Acme Motor Truck Co.

WHILE it is true that nearly every generation since the time of Adam has had its own peculiar problems to solve, the one now confronting America is different in many regards from any that have gone before.

There are many causes leading up to the condition we are now in—the lives lost in the World War, the influenza epidemic of the past two years, the raise in wages and shorter hours for common labor, the fact that when America's stalwart sons left the farms and small cities in response to the draft, many of them upon return to civil life chose to remain in the cities rather than return to the farm Other causes for the shortage of man-power on the farms of America—and this, by the way, is the problem of the age—is found in unfavorable crop and weather conditions prevailing in some parts of America during the past two years, the high price of everything the farmer has to buy, including farm tools, necessary building replacements, clothing and some few articles of food, and the general unrest and discontent so prevalent in all parts of America; a state of mind not helped by the stories heard on every side of great wage increases in the cities, extravagence and reckless spending on the part of wage earners in all of the great industrial centers, the charges of profiteering brought against practically every line of business, and in many cases by people themselves accused of profiteering by others.

This has all had an effect, in many cases whetted the appetite of the farmer for his share of the gold he believes is his for the taking in the city, resulting in thousands of abandoned farms in all parts of America, but more particularly in the less fertile lands of our country so that now no less an authority than Herbert Hoover said that unless the rush from the rural districts to the city was stopped, we would within five years be forced to import food from Europe or starve.

Seeking for happiness in the turmoil of the city on the part of the farmer is akin to searching for the pot of gold at the foot of the rainbow—neither one can be found.

It is true that farm work is hard, hours during the summer months are long and very much must be crowded into the time between sunrise and sunset each day. Knowledge of agriculture is essential the same as knowledge of any other business, but it is equally true that the returns are very much greater, all things considered than the returns received by the laborer in the city.

So much for the problem—now for its solution, which is found in the motor truck, trailer and tractor. The tractor will enable the farmer to prepare ten acres of ground for corn, oats, potatoes, beans, wheat, etc., as easily and as quickly as he formerly prepared one. The truck and trailer will enable him to pick his market and haul his products in a fraction of the time he could by team; deliver his live stock to market without loss of weight and time; speed up his work in every way.

In other words, the truck, trailer and tractor will make it possible for the farmer to produce ten heads of wheat where one grew before and do it quicker, easier and with one tenth the time and labor.

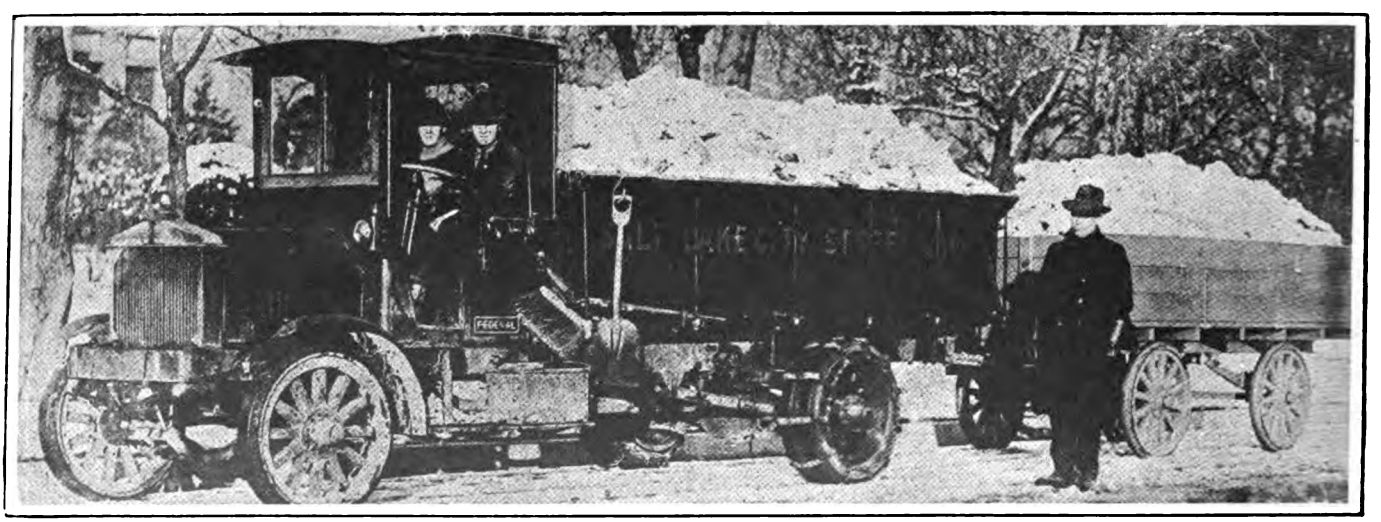
With a farm thus equipped, one man and one helper can not only increase production of foodstuffs, but change the occupation of farming to the business of agriculture and from plain, everyday, weary drudgery to fascinating, profitable business, clean-cut, wholesome; change it from a more or less humdrum existence to a pleasing and highly remunerative one.

When times change as they will do in the near future and the insane and deadly rush to the city is stopped, the motor truck, trailer and tractor will have been the means of stopping it and the business of farming will be recognized as on an equal footing in importance and desirability with manufacturing and far, far above the mere task of working six to eight hours per day and having barely enough in the pay envelope, when pay day comes, no matter how bulky that envelope may have grown, to pay the butcher, baker, grocery man, landlord and all of the others.

Teter-Davis-Titus Co. Takes on Armleder

The Teter-Davis-Titus Co., of Oakland, Cal., has recently taken the agency for Armleder motor trucks in that city. Mr. Teter is also joint owner in one of the largest motor truck transportation companies in the West, with routes covering 300 miles of territory, extending to San Francisco, San Jose, Stockton and Fresno.

In discussing the matter Mr. Teter said: "We are standardizing on the Armleder truck, using an especially constructed model of light weight mounted on pneumatic tires and capable of making 25 miles an hour."



HOW FEDERAL TRUCKS CLEAR AWAY SNOW.

Severe weather as far south as Texas, as far west as the Pacific Coast and throughout New England, have been choking the highways with snow. To put these roads of communication in condition for traffic, motor trucks were called upon. The increasing use of trucks for this purpose has come about through the pressing need for clear thoroughfares. In Salt Lake City, this winter, Federal trucks were used, while in almost every large city of the country similar fleets were in use. The importance of this rapidly developing new line of work for the motor truck may be gleaned from the fact that a recent snowstorm in New York City required the services of 14,000 men working for a week to clear the snow away.

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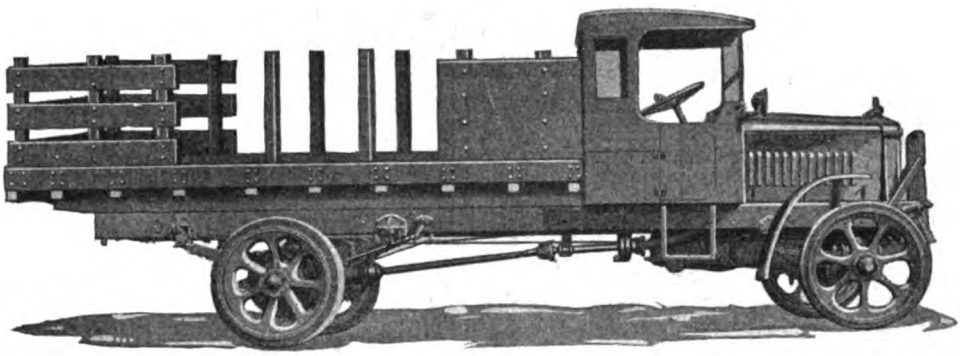
Built to Meet the Demand for Better and Stronger Trucks



Motor truck users, familiar with the causes *determining* their transportation costs, are demanding better trucks.

They are demanding trucks of greater strength for a given capacity rating — more endurance, longer life, more dependable service. These qualities give more ton miles at less cost.

Jumbo trucks are considerable stronger than has been heretofore considered necessary for trucks of the same capacity.

This extra strength is provided not to encourage overloading but to assure greater reliability, longer life, lower upkeep costs.

Hundreds of Jumbo trucks are giving that kind of service under severest operating difficulty. Satisfied Jumbo users are building bigger business for Jumbo dealers.

Write for full information

Nelson Motor Truck Company, Saginaw, Michigan

JUMBO

The Complete Truck

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HAUL IT IN A HALL

EXCESS POWER WITH NORMAL WEIGHT

HALL Trucks represent excess power controlled by excess strength.

Their advantage of excess strength is gained without undue weight which means low cost operation.

That principally is why Hall trucks withstand for long lived service the crushing impact of heavy load against road.

Hall makers have successfully accomplished their purpose because they have mastered the problem of handling heavy material over a period of 46 years in the manufacture of structural steel.

It will pay you to look into the Hall Line and see why it is the foundation of so many high-grade hauling systems.

Lewis-Hall Motors Corp.

Manufacturer of the Hall Trucks

15 Roby St., Detroit, Mich.

As Manufactured by
The LEWIS-HALL IRON WORKS
DETROIT, MICHIGAN.

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Big Users Place Their Stamp of Approval on Selden Trucks

Big truck users operate SELDEN Trucks. Concerns like the STANDARD OIL COMPANY, SEARS, ROEBUCK & CO., GILLETTE SAFETY RAZOR COMPANY, GOODYEAR TIRE & RUBBER CO., KNABE PIANO COMPANY, COCA COLA COMPANY and FIRESTONE TIRE & RUBBER CO.

The fact that concerns as large as these issue repeat orders for SELDEN Trucks is conclusive evidence of their merit. For motor trucks are tested to the utmost by such concerns before repeat orders are issued. Rigid cost accounts must prove them to be productive, profitable machinery.

Selden Distributors, the world over, are profiting by sales and repeat sales of Selden Trucks—with little effort on their part—for Selden "In-built Quality" sells itself.

Some territory, though very little, is still open to aggressive, well organized dealers. If you would like to become a Selden dealer, we should be glad to hear from you.

The Magazine "TRUCK TRANSPORTATION" will be sent free to all interested. Write Dept. MW
SELDEN TRUCK CORPORATION
Rochester, N. Y.

Ship by Truck—SELDEN Truck
1½, 2½, 3½, 5 Ton Models—All WORM Drive

IN-BUILT QUALITY SELDEN MOTOR TRUCKS

Selden Motor Trucks

SELDEN TRUCK CORPORATION, Rochester, N. Y., U. S. A.

L. M. FIELD, INC., Supervising Pacific Coast Distribution
1401-1419 Western States Life Building, San Francisco, Cal.

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Truck Subsidies Suggested

Clydesdale Man Believes France's Example As To Taxing Might Well Be Tried In the United States

MODERN warfare is largely a matter of transportation. No corps of troops had a greater share in the allied victory than the Motor Transport Corps of the A. E. F. When it is considered what volumes of material this hard-working corps moved, and the extent of territory covered, one can readily appreciate their stupendous performance.

Napoleon said "an army fights on its stomach," and it was no truer then than today. However, armies anywhere from a million up, living off the country, as was the fashion in the Corsican's time, is quite out of the question. A tremendous quantity of food is necessary to feed such large forces, not to mention ammunition and other supplies.

And to get the sinews of war where they are wanted when they are wanted, the motor truck is a prime necessity. The French wish to encourage the use of motor trucks by their business men and houses, so when the next war cames along, they will have an ample reserve of trucks for transport purposes. To accomplish this end an agitation is now going on in Paris and throughout the provinces to subsidize all motor trucks, or at least free them from all taxes and imposts, which will be a mild form of subsidy. Such action is calculated to stimulate their use.

The sponsors of this idea see nó great difference between subsidizing a motor truck which will be taken over in time of emergency and subsidizing an ocean steamship line, which also will be taken over in time of emergency. In both cases the subsidy is granted for the same purpose, to foster the transportation of the country and afford means of distributing goods with its own nations, and, of course, enable the Government to count on a ready reserve in time of emergency. A fleet of trucks on the good roads of France, or, with flanged wheels attached, on the railroads of France, would be of incalcuable assistance to the French army. A Clydesdale distributor believes there's a moral in this for this country.

President Fisher's Findings in South

Returning from an extensive trip through the South, President Albert Fisher, of the Standard Motor Truck Co., predicts that during the next five years the demand for motor trucks will greatly exceed production capacity. In every state, work is under way on good roads. Millions have been appropriated for their development. These roads are opening new territories and avenues of distribution. In the large cities dealers are very optimistic of the future. As good weather prevails generally throughout the year, the selling season is not limited. Many have ordered as many chassis as could be allotted them.

In Cuba, Mr. Fisher was told that although the American product was preferred, England and other European countries are making strenuous efforts to secure as much of the business as is possible. The Cuban trade is partial to quality, and willing to pay for it. It has to be handled, however, on a different basis than in the States and requires representatives experienced with the local methods of merchandising.

Service Truck's Feat in Wyoming

A western run of more than usual interest was recently completed by a big Service truck, with Goodyear pneumatics, on a trip from Laramie, Wyo., to Casper and return. In charge of two drivers, it left Laramie to get a piece of machinery for a drilling company at Rock River, no difficulties on the outward trip, but on the return, a sudden blizzard piled up snow to a height that made progress almost impossible. The big freighter however, plowed its way through the stretches where the snow reached to the running boards and was able to get through the drifts after a siege of laborious shoveling. A temperature of 12 below zero, coupled with an extremely sharp wind which penetrated the cab, added to the hardships. Laramie was reached only after two difficult trials. A first attempt was made via Dale creek, but this had to be abandoned. The truck turned back and made a similar attempt through the Telephone canyon and after battling with the drifts an entire day finally reached Laramie, having traveled only 53 miles during the last two days of the trip.

During the six days nearly 600 miles were covered, under the worst traveling conditions known for years in that section. It would have been impossible but for the big pneumatic tires with diamond-shaped blocks, that furnished the necessary traction on the mountain roads.

Bethlehem Success In the Northwest

Bethlehem perpetual co-operation, backed by the product and the price, has built up remarkable business for many distributors.

One experience among many is that of F. W. Vogler, president of the Northwest Auto Co., Portland, Ore. This organization has grown out of a 2-story building into a 5-story building, the first 50x100, the latter 100x100 feet, within a year. The company increased business during the war. Established in 1898, it became distributor of Bethlehem trucks only two years ago. Then there was but a scattering of them in Oregon, Washington, Idaho and Montana. Today Bethlehems are used in every agricultural and industrial pursuit. They are hauling ore and grain in Idaho, fruit and wheat in Oregon and Washington, and wool, lumber and all other products in the vast territory. In the cities the Bethlehem is in steady use, and its starting and lighting system finds equal favor there and in the country districts.

Rainier Motor Corp. Increases Capital

At a special meeting of the stockholders of the Rainier Motor Corp., New York City, a proposed plan of re-capitalization was adopted by 100 per cent of the capital stock outstanding. The new capitalization provides for the issuance of 7,500 shares of 8 per cent cumulative preferred stock, par value $100, of which 7,000 shares to be issued immediately, and 30,000 shares of common, no par value—all to be immediately issued.

The new preferred has been purchased by a syndicate, headed by John Nickerson, Jr., investment banker, New York City, who was elected to the board of directors, succeeding Godfrey Piel, resigned.

As a result of the new financing, the company is to erect extensive additions to its plant at Flushing, L. I., for the manufacture of worm-drive delivery trucks. The 1920 schedule is for approximately three times as many trucks as were built in 1919.

Transport Trucks in Northern California

P. W. Vickerson, president and general manager of the Transport Motor Co., which represents the Transport motor truck in Northern California, has just returned from a visit to the factory in Mt. Pleasant, Mich. Mr. Vickerson advises "Motor West" that his company is putting up a new building, 50x120 feet in dimensions, at Hayes and Franklin streets, San Francisco, where a full line of parts for Transport trucks will be constantly carried. He reports that he recently closed with the Stockton Motor Co. to represent the Transport in San Joaquin, Calaveras, Tuolumne and Amador counties.

Standard Motor Truck Co. Is in Detroit

In the March 15 issue appeared a picture and description of a new pneumatic tired model 56 chassis, 1½-ton capacity, which had been introduced at the Chicago show by the Standard Motor Truck Co., "of Milwaukee." It was O. K. except that the company's address is Detroit.

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Pioneers Yesterday —Leaders Today!

"The Nation's Freight Car" is today the product of one of the first twelve builders in the business—a pioneer, whose present accumulated experience is naturally embodied in a really superior motor truck.

Every model of the full line enjoys the repute and renders the performance of a **leader.** Constructionally it has a number of exclusive patented features, such as the motor mounting, perfected Hotchkiss Drive, spring anchorage box, etc., that add their quota to long life and absence of repair.

Some very interesting and unusual literature on these subjects can be had on request from us or the nearest Diamond T dealer.

Pioneership and leadership are, obviously, not obtainable in every motor truck. They are worth finding, for the subsequent satisfaction which they insure to the motor truck user.

These Distributors are behind Western Sales and Service:

Diamond T Truck Company of Washington
Distributors for the State of Washington
1117 E. Union Ave., Seattle, Wash.

Hirsch Motor Company
Distributors for Upper California
1131 Van Ness Ave., San Francisco, Cal.

Diamond T Truck Sales Agency of Oregon, Inc.
Distributors for the State of Oregon
89-91 North Ninth St., Portland, Ore.

Diamond T Pacific Truck Co.
Distributors for Southern Calif. and Arizona
1220 S. Grand Avenue, Los Angeles, Cal.

DIAMOND T MOTOR CAR COMPANY :: 4525 West 26th Street, Chicago, Ill.

COMPLETE LINE 1½ TO 5 TONS

"The Nation's Freight Car"

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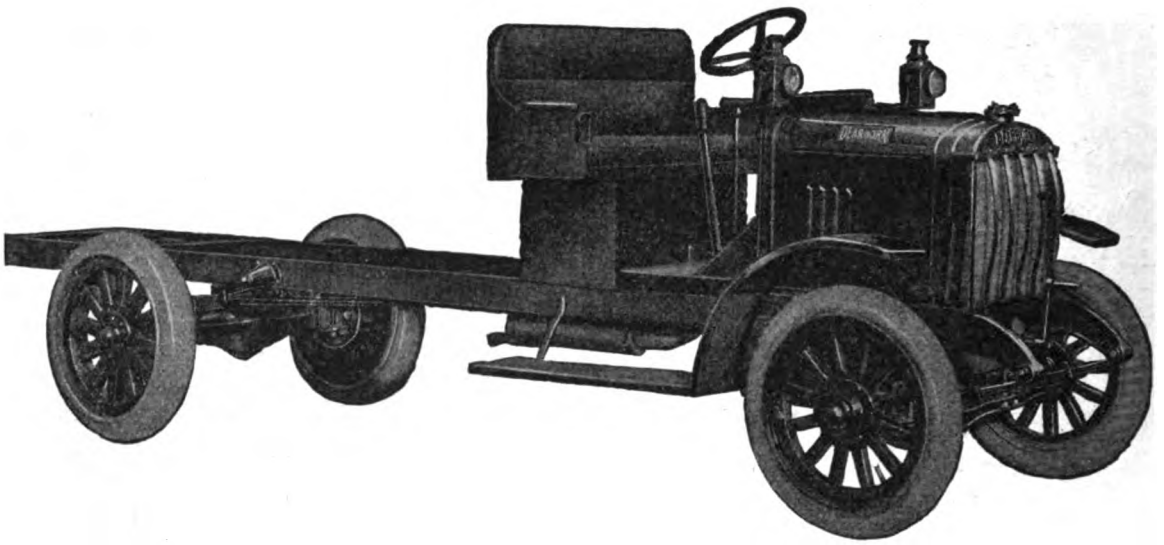

You Sell Actual Performance

IN

DEARBORN TRUCKS

You can sell the 1920 model 48 Dearborn 2-ton worm-drive truck with the *absolute conviction* that you are giving your customer an unequalled value. In this day of rising costs the economy features of the Dearborn give you a decided advantage over your competitor.

As an assurance of the utmost in dependability the working units are—Buda Motor, Bosch Magneto, Stromberg Carburetor, Stewart Vacuum Feed, Fuller Clutch and Transmission, Standard Worm-Drive Axle.

The proven strength of the Dearborn scientific light weight construction is the basic reason for this economy. A big, rugged, 2-ton *Worm-Drive Truck*, from 500 to 2000 lbs. lighter than other worm-driven trucks of the same capacity means a big saving in oil, gas and tires.

Someone will sell the Dearborn in your *territory*. It will pay *you* to investigate.

Eighty-five per cent of all truck users are prospects for this truck. Dealers of *high character* are requested to write for liberal dealer proposition.

WRITE TODAY

The Dearborn Truck Company

2015-17 S. Michigan Ave., Dept. C
CHICAGO

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What this Tenth Year Label Means to the Federal Dealer

Primarily, it means that Federal is ten years old—going on eleven.

But it means more than that to Federal Dealers and distributors.

In the first place, it will represent experience—ten years of careful, intelligent effort that has given Federal such an enviable reputation among trucks.

To the dealer this means that the truck he sells is not an experiment, out the product of millions of miles of real transportation experience.

And this Federal tenth year tag also stands for responsibility. It means that back of every dealer stands a company that has led in every field of truck transportation since it was founded ten years ago, a company that is sound in its financial strength, and high in the confidence that a general public holds for it and its products.

The tenth year label that we have pictured above will be attached to every Federal truck purchased in 1920. It will represent something very tangable and very valuable to every Federal dealer and distributor.

FEDERAL MOTOR TRUCK COMPANY DETROIT, MICHIGAN

Another

FEDERAL

One to Five Ton Capacities

Please Mention "Motor West" When Writing to the Advertiser

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n Truck

Believes They Fleets to ıffic

-y will eventually s for motor trucks nanager of the re- e Auto Co., Clin- the fact that the nomical transpor- ıe pressure of war ı of the roads to the old time com- ransportation will ves.

ownership means possible means of says Mr. Stanley. its value in giving or short hauls, it ', safer and more popularity of the lemand for truck-

ever, and the re- ip, it is to be ex- the business they ıpon any attempt ew channels, with ı see competitive

/HEEL DRIVE.
Duplex 4-wheel drive ih it and return home saw it perform. Re- ., came to the Coast luplex Limited speed in front of the estab- r for the Duplex, at : With hat off, Ray ı truck, with hat on, ı Duplex Truck Co.; t on, President Lee; ıdell; seated on right ice manager; on left ont of truck, left to es department; Lois extreme right, Walter

trucking service increase and a disposition on the part of truck owners to enlarge this service, the railroads will themselves inaugurate fleets of motor trucks to facilitate their transportation.

The advantages of such transportation system for short hauls to facilitate the work of the steam roads are numerous. Probably the most striking is economy. There is no expense for the right of way, and the cost of upkeep is centered entirely in the truck. There is no uncertainty about the terminal charges and no necessity for warehouses. Combined with this, the truck has the added advantage of being able to go in any direction, without being forced to follow a definite line of rails.

The concerted action of federal and state commissions to improve the nation's roads and highways is an added inducement that promises to increasingly popularize the ship-by-truck idea.

Distributors Meet and Inspect New Transport Truck

The larger distributors of Transport motor trucks recently met at the Transport Truck Co.'s fine new factory at Mount Pleasant, Mich. The meeting was remarkable evidence of the progress of the Transport toward national distribution in a little more than a year. These distributors came from all parts of the United States. Among them were some of the most prominent men engaged in the marketing of trucks. The Transport Truck Co. is headed by men of long and successful experience in truck manufacture. The immediate reason for this meeting was that the company is bringing out a new truck for 7000 pound load service.

It is the company's policy to take its distributors into its confidence whenever a new model is determined. Accordingly the distributors were invited to confer with the engineers. The utmost freedom was encouraged in comment on design, construction, and other points of the market it is planned to meet.

The distributors thoroughly inspected the Transport's new daylight factory. Talks were made by representatives of parts manufacturers.

The convention ended with a banquet at the Bennett Hotel. The meetings throughout served to cement the Transport's sales organization, which already covers important points in every section of this country. So successful was the affair that it was decided to call a similar meeting every year.

Friend Horse Not Quite Gone Out

Though it may be true that the motor-driven vehicle has begun to put the farm horse "on the run," there is no evidence that he has developed much speed, and his total value still compares favorably with other classes of farm animals. On January 1, 1920, the Bureau of Crop Estimates of the United States Department of Agriculture estimated the total value of horses on farms in this country at $1,993,000,000, or just a little below the value of milk cows, which was $2,022,000,000.

Defiance Motor Truck Co., Convention

The spring sales convention of the Defiance Motor Truck Co., Defiance, O., was attended by distributors from as far West as Colorado. Some new models, known as Defiance Speedtrucks, were shown, and Albert M. Pearson, general sales manager, told of a new plan for merchandising them on a national scale.

Charles Kettenring, president and general manager, outlined preparations for immediate large production.

Power Truck and Tractor Directors

Directors were elected at the annual meeting of the Power Truck & Tractor Co., as follows: Leslie R. Acton, William J. McGoldrick, Clare Acton, Herbert M. Barbour and A. Gould. These elected Leslie R. Acton, president; William J. Goldrick, vice-president; Clare Acton, secretary and treasurer.

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Clydesdale Dealers Have an Advantage

DEALERS who handle the Clydesdale welcome an opportunity of testing it against any other truck for they have found that Clydesdale always comes through in a pinch.

Of course Clydesdale has a distinct advantage over all other trucks because it is the only truck equipped with "The Driver Under The Hood", the automatic controller.

No Other Truck Has It

"The Driver Under the Hood"

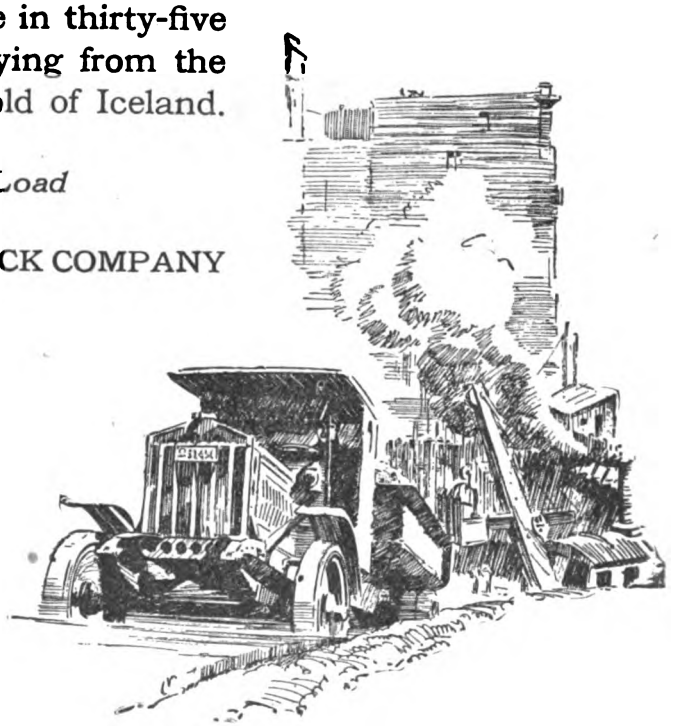
This little instrument so intelligently directs the motor that the maximum of power is always forthcoming in the pinches.

For instance, when the truck hits a bad chuck hole, before the driver has a chance to touch the throttle "The Driver Under The Hood" has summoned the necessary power and the truck moves out of the hole with hardly a slackening of speed.

This ability to come through in the pinches has made a name for Clydesdale in thirty-five countries under conditions varying from the sands of Sahara to the bitter cold of Iceland.

One to Five Tons Net Load

THE CLYDESDALE MOTOR TRUCK COMPANY
CLYDE, OHIO



CLYDESDALE

A World Proven Motor Truck

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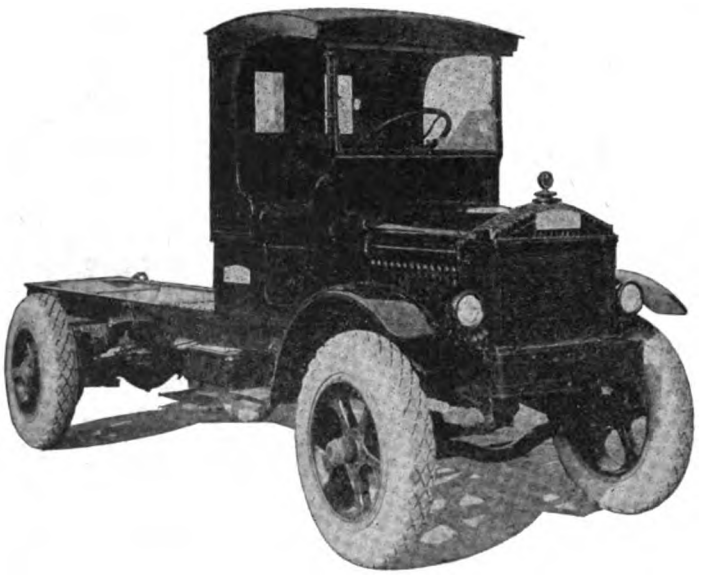
HEADIN' WEST!

Electric
Starting
and
Lighting



1½
2½
3½
Tons

The "KALAMAZOO"

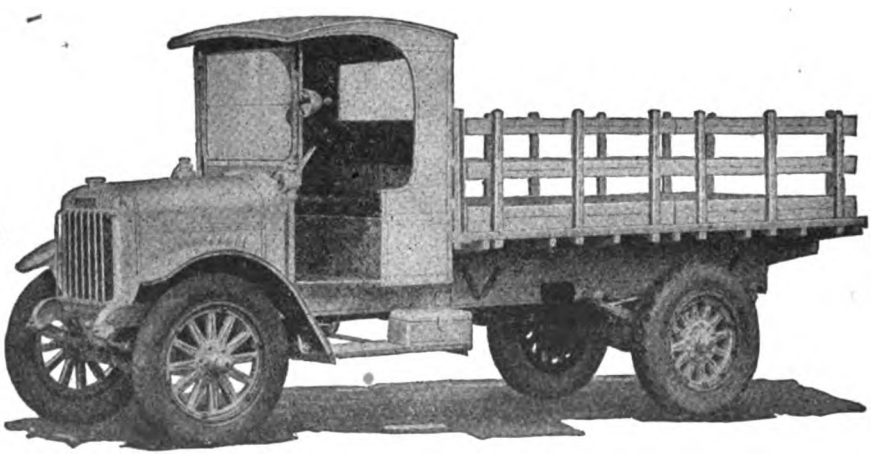
"The Hand-Made Truck"

Unsurpassed opportunities for West Coast Distribution. Write—

Kalamazoo Motors Corporation, Motor Truck Division, **Kalamazoo, Michigan**

WOLVERINE

Some Good Dealers Territory is still open.



If interested, wire or write at once, as all territory will be covered very soon.

The Truck of Good Service

An up-to-date truck in every respect which will give 100% service to the owner. Fully equipped with electric starting and lighting system including a searchlight.

MANUFACTURED BY

AMERICAN COMMERCIAL CAR COMPANY

DETROIT, MICH.

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The only reason why Smith Wheels are hubless is, we know that the hub cast integral wheel for motor trucks is not the right type of wheel for the purpose. We have learned this from our vast experience and observation in designing and building all kinds of metal wheels for various uses.

Smith wheels at all times give satisfactory, dependable service. That is why they are guaranteed forever.

Smith wheels are supplied to the truck maker when wanted. The making of trucks is not held up for lack of them. Our deliveries of Smith Wheels eliminate excuses and their service results and appearance also help to make their big sale.

Our desire is always to convince by facts. There is a world to be learned about metal wheels.

SMITH WHEEL
SYRACUSE, N.Y. U.S.A.

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Plea for Full Equipment

Schafer, of Gramm-Bernstein, Makes Strong Talk to Truck Sales Managers at Association's Convention

A. E. SCHAFER, general sales manager of the Gramm-Bernstein Motor Truck Co., Lima, O., in an address at the last meeting of the National Association of Motor Truck Sales Managers, told of his experience and observations incidental to the fact that his company was the first to publicly advocate fully equipped vehicles. There exists a real demand for this practice, he said, backed by sound merchandising sense and well established precedent.

"In 1910," he said, "when the passenger car industry was in its swaddling clothes, I was a motor car manufacturer on my own account, in Cincinnati. Our company had been making some thousands of horse-drawn vehicles a year, and of course had some 'horsy' notions. That, at least, was what we were accused of when we threw a bomb into the trade by being the first to announce a fully equipped passenger car. Such equipment then included acetylene gas generator, lamps, bulb horn, top with curtains, windshield, speedometer, foot rail and robe rail. My partner and I were roundly berated for our 'stupidity' in giving away so much that had formed the basis of extra profits, and the prediction was the movement would begin and end with us. All of you know whether it did or not.

"Now I simply want to say, in passing, that the automobile sales manager for some years plumed himself on super knowledge of marketing. I for one have never been able to see where he has taught anything in general merchandising except the two valuable features of getting advance cash deposits on future contracts and selling his goods on sight draft with bill of lading—both of which were invented, born and nurtured, of necessity. Outside of those features, the more nearly he has followed well established, stable ideas of merchandising, the stronger and sounder his organization has become. General sales management, to my mind, at once implies profession merchandising ability, in the exercise of which all of us, in better or poorer fashion, try to learn what is the public demand, what is the line of least resistance in meeting that demand, and the best way to work in harmony with both. One of the tests I like to put to any question is, as to how I would like to be approached with it, and whether doing it a particular way will conduce to the ultimate best good of the industry. Here is an application of the idea:

"With few exceptions, no truck can be used without a cab as protection for the driver; and if a cab, why not one that will be suitable for all weathers and climates? That means doors, windshields and curtains. Former teamsters, drivers of horses, were notoriously poor as motor truck drivers. They were weather-tough, but that was all. The way to get a better class of drivers was to attract them with better equipment. As to that, let us start at the front of the truck and work back.

"Take the radiator guard—the number bought each year shows they are a real need. It is only good sense to protect the radiator, not only to save repair cost but to obviate a lay-up of the truck. In fact, anything done within reason to keep trucks out of the repair shop is wise.

"The motometer is a small but valuable thing. It tells the driver quickly such things as lack of water or oil, fan belt broken, water pump key sheared off, oil pump or lines broken or clogged, etc. Knowledge of such things prevents motors overheating, scored cylinders and other serious troubles.

"In 1910, when Mr. Gramm first exhibited an electrically lighted truck at Madison Square Garden, such appliances were unsatisfactory. Today no other method would be satisfactory; and with electric generators and heavy duty batteries, hand horns are out of date and the electric horn is the thing. It prevents many a costly accident.

"Some have argued against the hub odometer, largely because they do not equip with them. How else, in reason, can the owner learn the mileage his trucks make; the cost per ton mile for gas, oil and tires? How can he arrange for proper tire adjustments, etc., or for draining the crank case at proper intervals to keep lubrication on the safe side?

"Next come army towing hooks. Recently one of our old chain drive, 6 cylinder trucks—a heavy duty dump of 7 ton capacity—was towed to our factory from somewhere up the state, because a connecting rod had let go and gone through the case. It had no towing hooks and the towing was by means of a chain around the front cross member. The fellow who did the towing had no drawbar. Consequently, both front and rear cross members were pulled entirely out of shape and alignment. In the case of the dump, we had to heat and straighten the front member, also to re-rivet the front spring brackets, also to put in new rivets farther back, where they had been started by the distortion at the front end. Needless to say, the owner of the old chain drive truck authorized adding tow hooks to the repairs.

"The point applies as strongly, or more so, to the need of spring trailer drawbars, without which serious damage may result to the rear end of any truck towing another, by distorting rear ends and loosening corners, thus allowing transverse frame action, bending of rear shackle bars, etc., etc.

"Another very great reason for full equipment is that it increases the truck's value for transportation, by enabling it to haul one or more trailers. The trailer manufacturers are wide awake. They are educating the truck owner along trailer lines. We are not wise as sales managers if we do not insist on our product being equipped to meet these newer conditions.

"Now just a word on the dealer's interest. Would you buy a passenger car stripped, and then start all over and buy top curtains, electric lights, horn, robe rail, foot rail, extra seats, etc., or would you demand that the dealer price include such outfit as you were looking for? Or, if you were the dealer, would you like to sell a man your truck and then, perhaps after a hard wrestle on the major sale, go all over the case again by selling him, piecemeal, the things you call extras, but which are actual necessities, and the lack of which would not enable him to operate his truck satisfactorily and economically in the long run?

"How many dealers are there who get full price for such extras? Do they not, as a matter of fact, give away many so-called extras? This forms one more avenue for insidious price cutting, and constantly reduces their average margin of profit—something we should all labor against, because if the dealer does not make a proper profit he will not long handle any one line but will continue to change and finally give up and tackle another line of business.

"This association, young as it is, has already impressed the automotive trade with its intention and ability to be constructive. Therefore, let us standardize on what shall be complete truck equipment, and thus be the Moses to lead the trade out of the wilderness of irregularity, into the land of stabilized conditions and better profits. Don't put it off. Do it now. Recognize the necessity and sell your product fully equipped."

Started With Motor Truck, Stayed With It

The Edgewater Fuel Co., Seattle, started in business in August, 1917, in a very small way. From the beginning it used, and still uses, the first Acme motor truck sent to the Pacific Coast. It uses five Acmes, which serve every part of Seattle six days a week. It has also gone into the gravel business. Its business on the whole has increased 500 per cent since the start. For this, Manager Archie Meyers gives much credit to the 100 per cent distribution efficiency made possible by means of motor trucks.

At a meeting of the directors of the Selden Truck Corp., Rochester, N. Y., recently, the regular quarterly dividend of 2 per cent on second preferred, was declared, both payable April 1.

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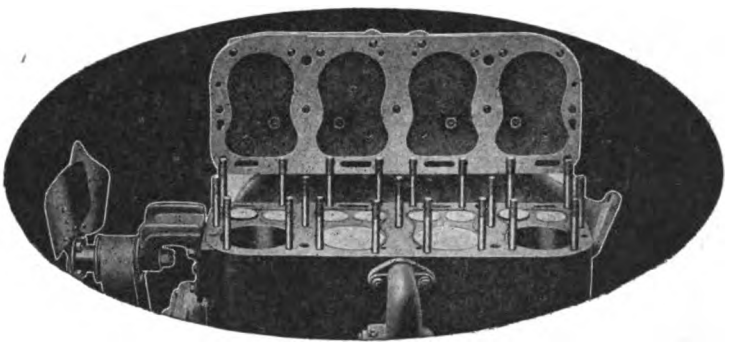
ACCESSIBILITY

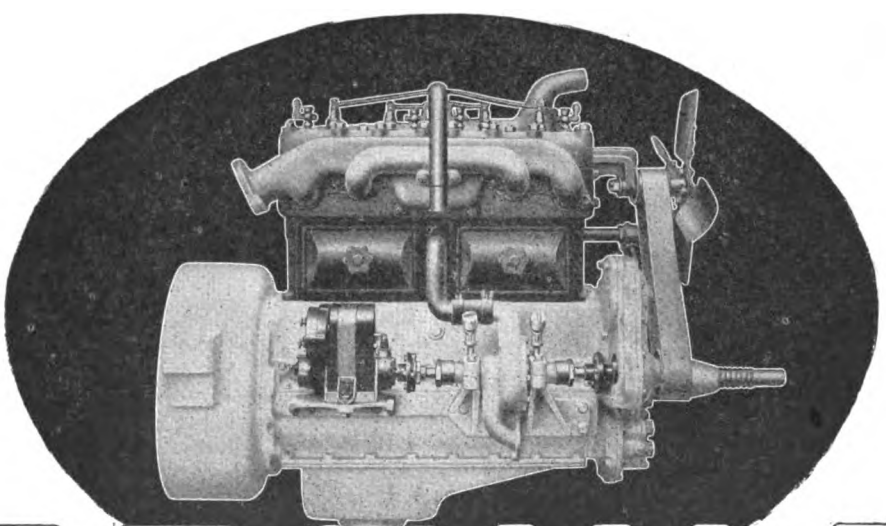


A Primary Essential in Design

The ready accessibility of every important part is only one more illustration of the forethought of Hercules designers.

The Hercules Motor Mfg. Co.
CANTON, OHIO

Sales Offices: Detroit Chicago Buffalo
San Francisco London, England



HERCULES

FOR TRUCKS AND TRACTORS

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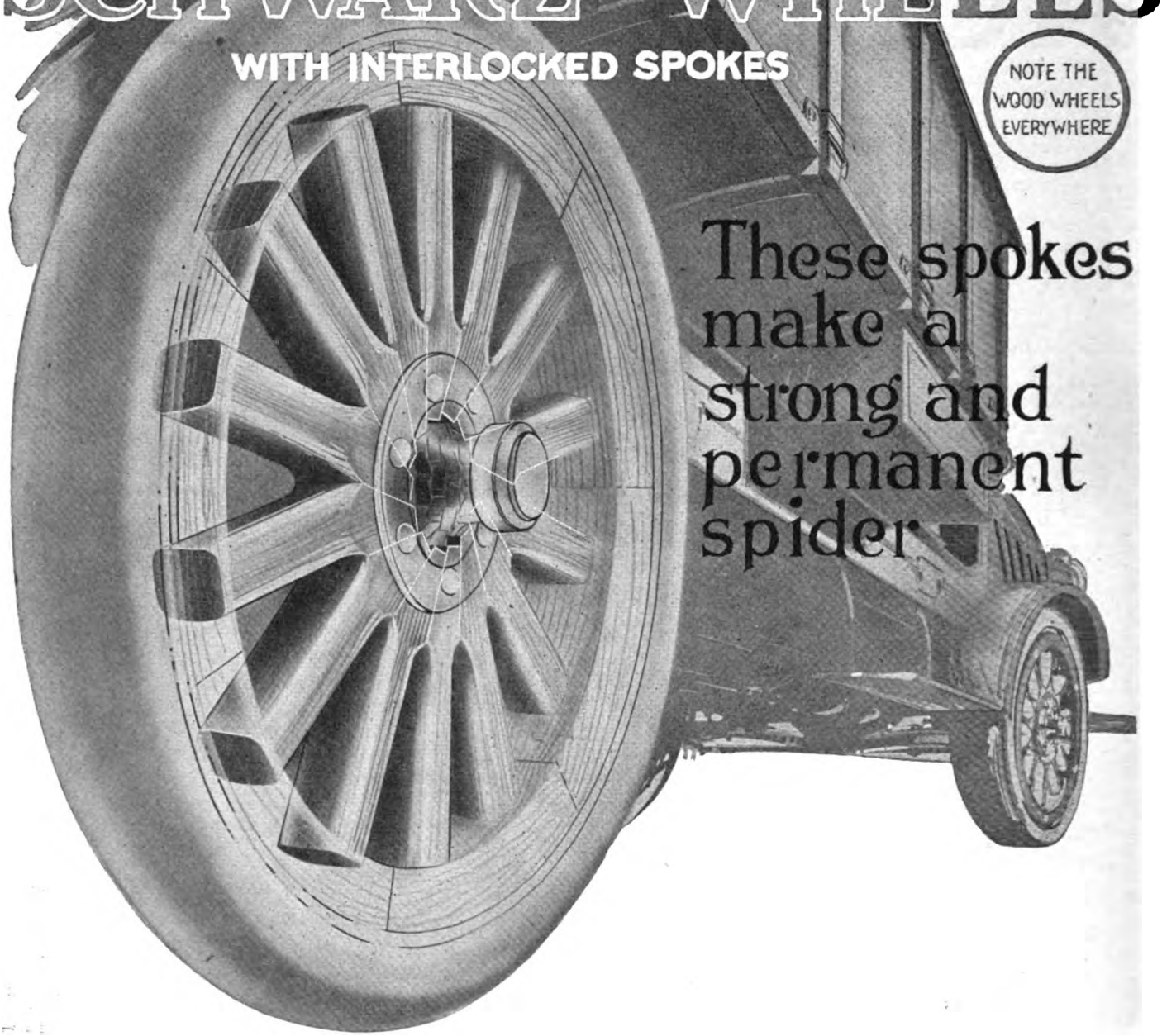
SCHWARZ WHEELS

WITH INTERLOCKED SPOKES

NOTE THE WOOD WHEELS EVERYWHERE



Just think of repairing a broken wheel in less time than it takes to turn the spokes.

Just think what that would mean to *you*—

You could do two such jobs in the time it now takes you to do one. You would get the same price for the job, and your customer would get a much stronger wheel than he had originally.

Keep Schwarz Spiders always in stock—they are almost as rigid and permanent as complete wheels. The interlocked spokes make Schwarz Wheels and Spiders the strongest known.

We are the exclusive distributors on the Pacific Coast for Schwarz Wheels and Spiders. Any size for passenger cars or trucks can be shipped immediately from our complete stocks at San Francisco and Los Angeles.

SCOVEL IRON STORE CO.

SAN FRANCISCO SISCO LOS ANGELES

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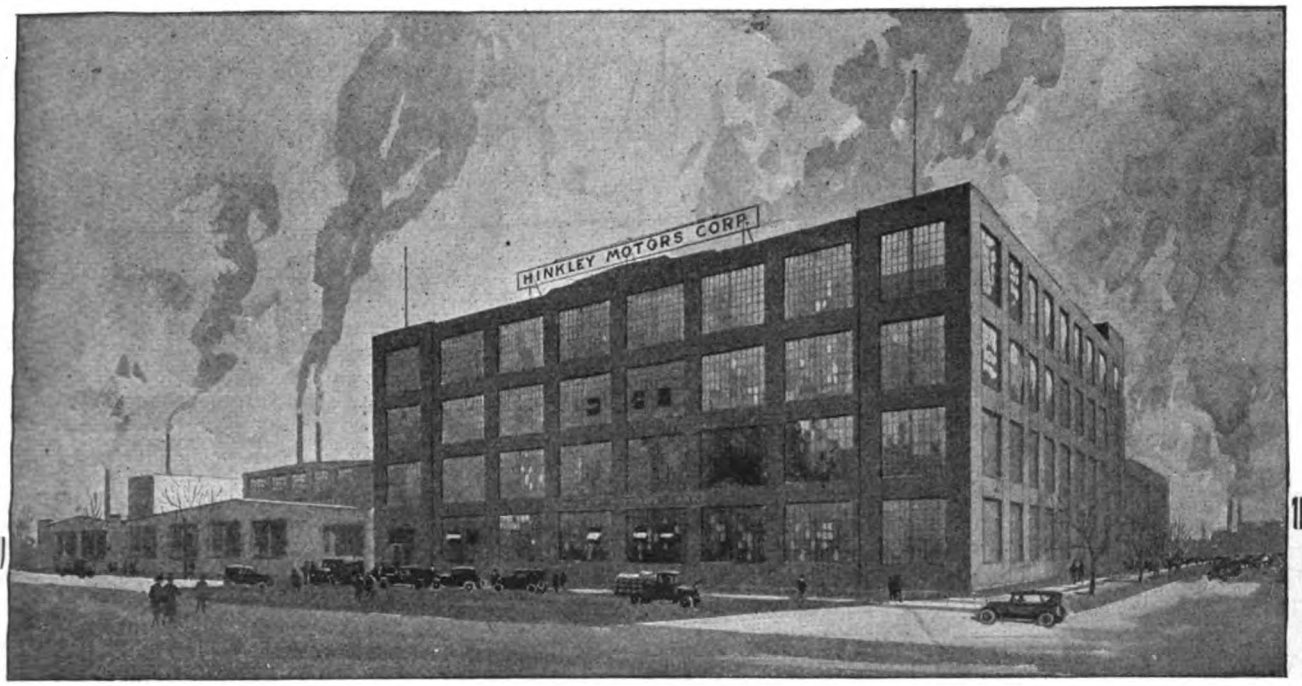


A Stage That Was Set

To produce an article of such Exclusive Merit as the Hinkley Heavy Duty Automotive Engine has been possible only because the Setting was Ready and the Time Ripe.

Our Plant was new, and emerged from its government service with tried Equipment and an Organization schooled to please the most discriminating engine buyer in the world.

At almost that very moment came the insistent demand for Better, Prompter Mechanical Transport.

Supply and Demand—Demand fully recognized by the Truck Manufacturers who are our customers—met. And so you find a Hinkley-Engined Truck ready to serve you as Truck has never served you before.

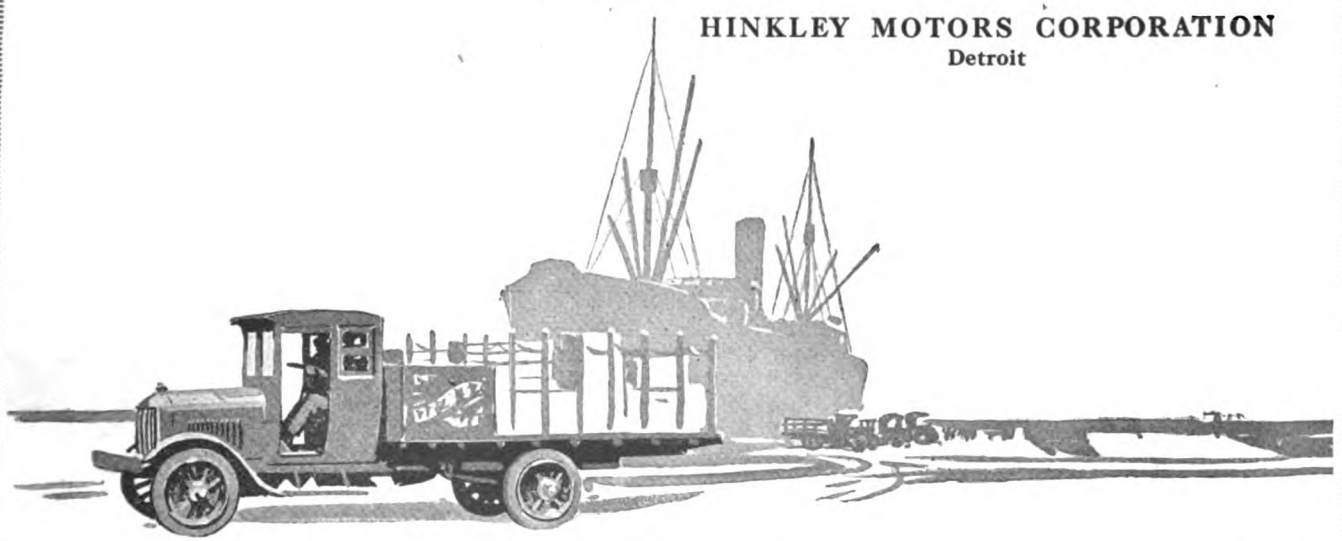
HINKLEY MOTORS CORPORATION
Detroit

High Quality Motor Trucks Equipped with

HINKLEY
HEAVY DUTY AUTOMOTIVE
ENGINES

are on sale everywhere.

Ask us for a complete list of these trucks with their respective ratings.



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Sells By Tractorizing Them

John L. Wheeler's Experience In Orange County, California, Told for Other Dealers to Profit By

JOHN L. WHEELER, of Santa Ana, Cal., typifies a new kind of tractor dealer—neither an automobile man nor an implement man, but a power farming merchant. The Cletrac Courier, published by the Cleveland Tractor Co., Cleveland, O., tells about him as fitting the prophecy that the tractor dealer of tomorrow will be the man who has foresight enough to visualize the motorized farm; who will build up a business as a power farming dealer, around a good tractor; who will specialize on power farming equipment, for the reason that the tractor can only be of service when properly hitched to the right implement or tool. The Cletrac, it is remarked, can be used for so wide a variety of farm and industrial operations that it offers high opportunity for that kind of a dealer—the kind that Mr. Wheeler is.

That kind of tractor dealer, it is pointed out, may also well become, if not already, a good seller of farm trucks, lighting plants and other power equipment. Today he may be a garage man or an implement man. To become a good seller of tractors and the other things mentioned, he must himself be completely sold on the basic principle of motorizing the farm. He must be able to show the relation of the idea to the needs caused by doubled land values and the high cost of everything—especially its profitable relation, as a means of economical production, to the higher prices obtainable today for products.

Such a man does not lose by, but takes advantage of, and enables his farmer customers to profit instead of losing by changing trade conditions. Such a man is Mr. Wheeler, whose territory is Orange County, the principal products of which are oranges, lemons, walnuts, beans and sugar beets.

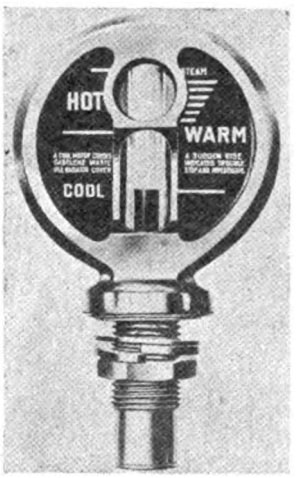
Mr. Wheeler devoted most of his energy to selling automobiles till the past year, when the motorized farm opportunity gripped him. Now he handles the Packard truck, the Cletrac and a complete line of tractor implements and tools. He recently moved into a splendidly day-lighted establishment, a picture of which shows, on the street in front of it, seven Cletracs which, with their caterpillar traction, make a very businesslike battery. The interior of the place is most capacious. Another picture shows one of the tractors mounted on a well balanced two-wheeled trailer, being hauled behind Mr. Wheeler's automobile.

It is claimed that whereas, a year or so ago, the Orange County business was pretty well divided between several agencies, now Mr. Wheeler and the Cletrac predominate. It is a small county, as California counties go, but he sold more than 75 last year and expects to double this in 1920. Close personal educative follow-up is his method. His last year's sales were in the southern half of the county. Now he also has the northern half, where there are more ranchers. He finds that sales makes sales in the southern part, but soon his method is expected to do the same in the other half.

The Yuba Mfg. Co., Marysville, Cal., has moved its sales and advertising department to San Francisco. Manufacturing will continue at Marysville.

Boyce Moto-Meter for Tractors

The tractor driver cannot see the most delicate—and the most expensive—part of his machine; that is, the engine. The knowledge, amounting often to worry, is a detriment to productive energy; an actual loss of money. There is no more common cause of trouble than excessive heat, but what can one do, if the only way to know it is by hearing or seeing what's going on? Often, then, it is too late. One answer to the problem, and one that has been adopted by 2,000,000 owners of passenger cars, is the mechanical watchman, the Moto-Meter. One has been designed for tractor use. Its function is to warn of engine trouble before it happens, by indicating overheating. Its makers, the Moto-Meter Company, Inc., Long Island City, N. Y. declare it is the one sure method of forestalling engine breakdowns and expensive delays. It serves as well to indicate insufficient heat, or the just-right temperature. Thus it helps eliminate premature wear, burned bearings, scored cylinders, and so on. It is a sturdy model, for rough usage; is said to withstand the hardest vibrations and trains possible in tractor use. The thermometer tube diameter is ½ inch. There is a strong protecting frame, making breakage almost impossible. The casing is nickeled and the tube has a broad red column of indicating liquid, easily seen despite dust conditions. The Moto-Meter is obtainable from dealers everywhere.



MOTO-METER SAVES TIME, WORRY, MONEY.

Southern Dealers Decide on Show

At the monthly meeting of the Southern California Tractor and Implement Dealers' Assn., at the Alexandria, Los Angeles, it was decided, for the annual exhibition, to dispense with a general demonstration and hold a huge indoor tractor, implement and farm machinery show, with all the developments of the year exhibited under one roof, following the plan of automobile shows.

A Standard Oil representative explained that the big refiners had discontinued making distillate because the short supply of suitable crude oils necessitates reducing the number of products, but the result is there will be more gasoline and better kerosene.

Use Gasoline One Year, Is Advised

The field engineering department of the Bates Steel Mule tractor makers advises that, as the price of kerosene is nearly the same as that of gasoline, the latter be used the first season until the operator thoroughly knows his machine. Careful attention to oil is necessary when kerosene is the fuel.

To Make Fordsons in Colorado Springs?

It is reported, without definite announcement, that Fordson tractors may be made in the near future by Henry Ford & Son in Colorado Springs, Colo.

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"Pay Dirt" for Dealers

THE big and growing demand for the small tank-type tractor is "pay dirt" for the power farming dealer who handles Cletracs. There's a rich market for the sturdy, compact Cletrac in *your* territory.

The All-Purpose Tractor

Farmers everywhere have O.K'd the Cletrac—they know it shoulders every farm job, all year 'round. In the road-building and contracting fields there's a big market for this sturdy, powerful tractor. And in factories, lumber camps and oil fields, the dependable Cletrac has proved itself and is fast replacing other power units.

Your Opportunity

Grasp this opportunity for present profits and future expansion. Tie up with Cletrac *now*. Enjoy steady, profitful sales *the year 'round.*

Write or Wire Today

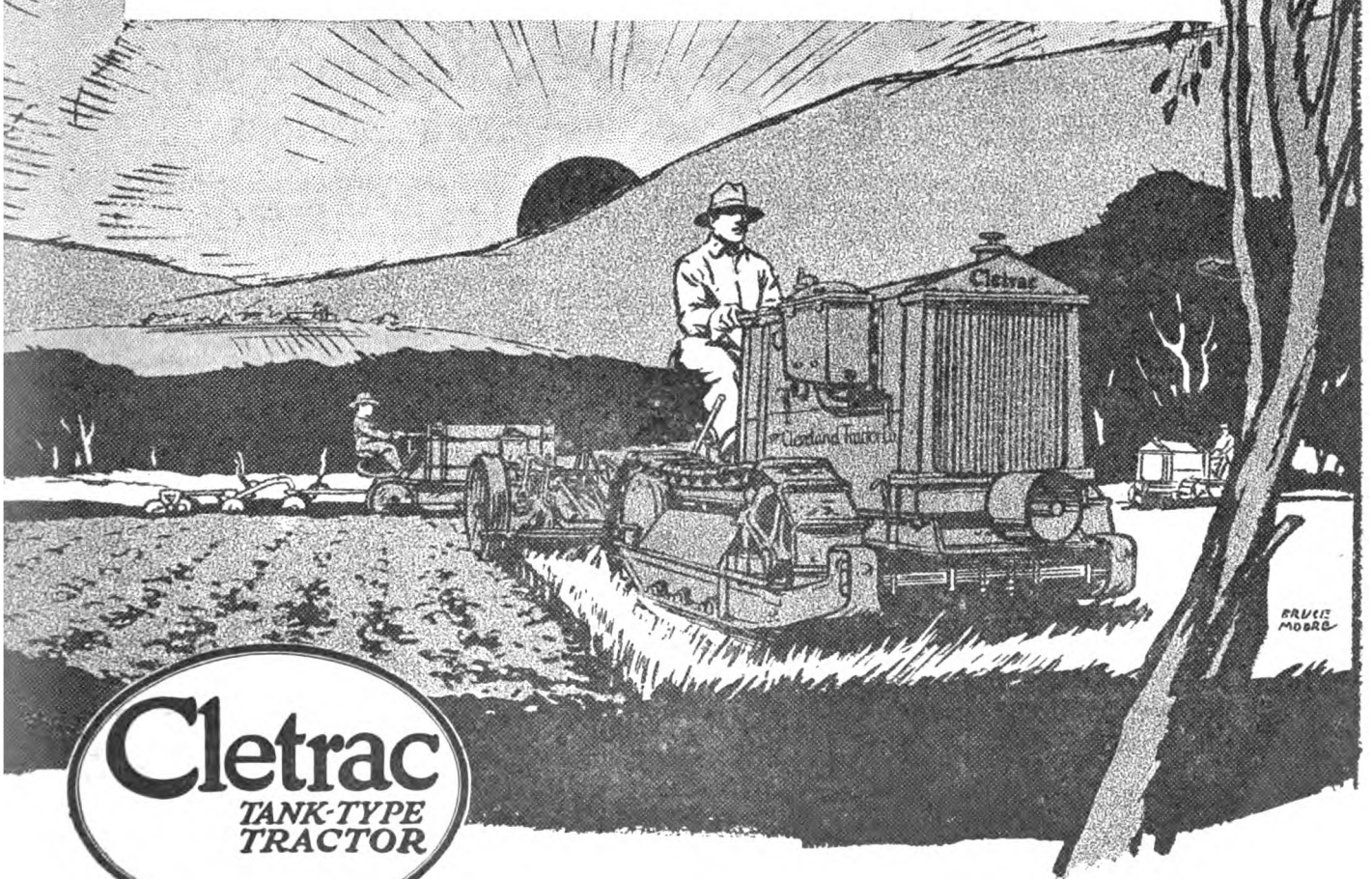
The Cletrac organization backs the Cletrac with sales, advertising and service policies that put real profits into the Cletrac Dealer's franchise. Wire today for our attractive dealer proposition or write for the interesting booklet *"Pay Dirt in the Tractor Field."*

19120 Euclid Avenue
Cleveland, O.

The Cleveland Tractor Co.

"Largest Producers of Tank-Type Tractors in the World"

Sales & Service Headquarters
SPOKANE
SAN FRANCISCO
LOS ANGELES



Cletrac
TANK-TYPE TRACTOR

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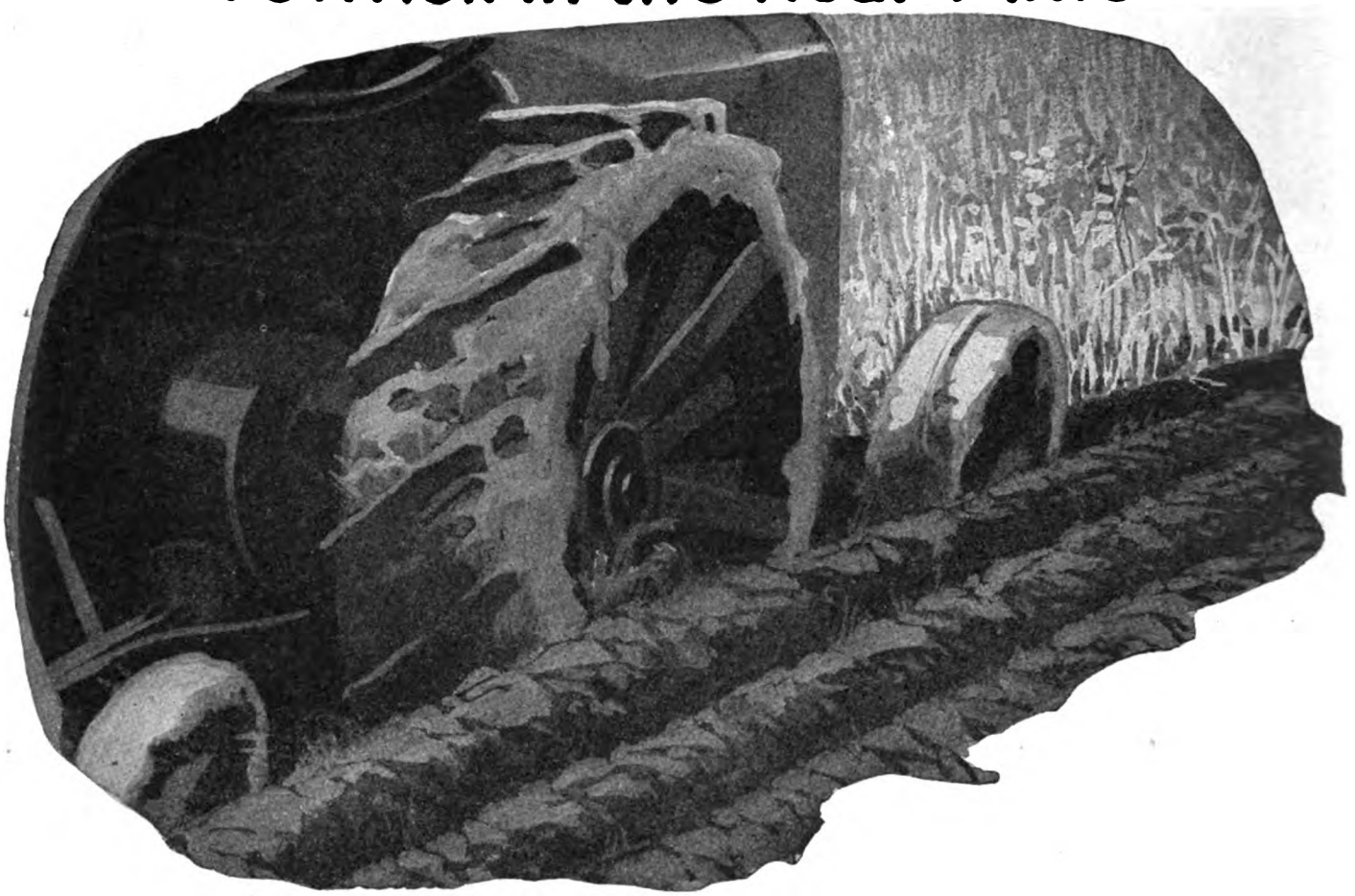
Powrlok in the Rear Axle



For Motor Trucks, Passenger Cars, Tractors, Industrial Trucks, Axles and Transmissions

Do you know why you stall so easily—why one wheel often spins hopelessly in a mud-hole or snow bank and the wheel with the solid "footing" stands idle when it ought to be pulling?

Do you know why you skid so easily?

This all happens because of the old-fashioned differential, which distributes the power to the rear wheels just the opposite way to which it should—in indirect proportion to the hold which the wheels have on the ground. If one wheel has no traction it gets all the power.

Powrlok has changed all this. It reverses the action of the ordinary differential and ***automatically*** gives the power to the wheel that has the greatest traction.

It is truly a marvelous invention—classed by many engineers among the three or four greatest improvements made in automobiles during a decade—proven by five years of testing in all sorts of automotive vehicles—in all kinds and conditions of service.

Sixty leading manufacturers of cars, trucks, tractors and industrial trucks now use it as standard or optional equipment. All will eventually.

Send for our new booklet—"More Than A Differential."

Specify "Powrlok" when you buy.

THE POWRLOK COMPANY, 1107 East 152nd Street, CLEVELAND, OHIO

CALIFORNIA DISTRIBUTORS FOR REPLACEMENTS ONLY
AUTO MACHINE COMPANY, 536 West Santa Clara Street, San Jose, California.

FOREIGN REPRESENTATIVES:

The Powrlok Company, Ltd. Offices: 24 Maddox St. Regent St., London, England. 19 Avenue MacMahon, Paris, France

POWRLOK

"More than a differential"

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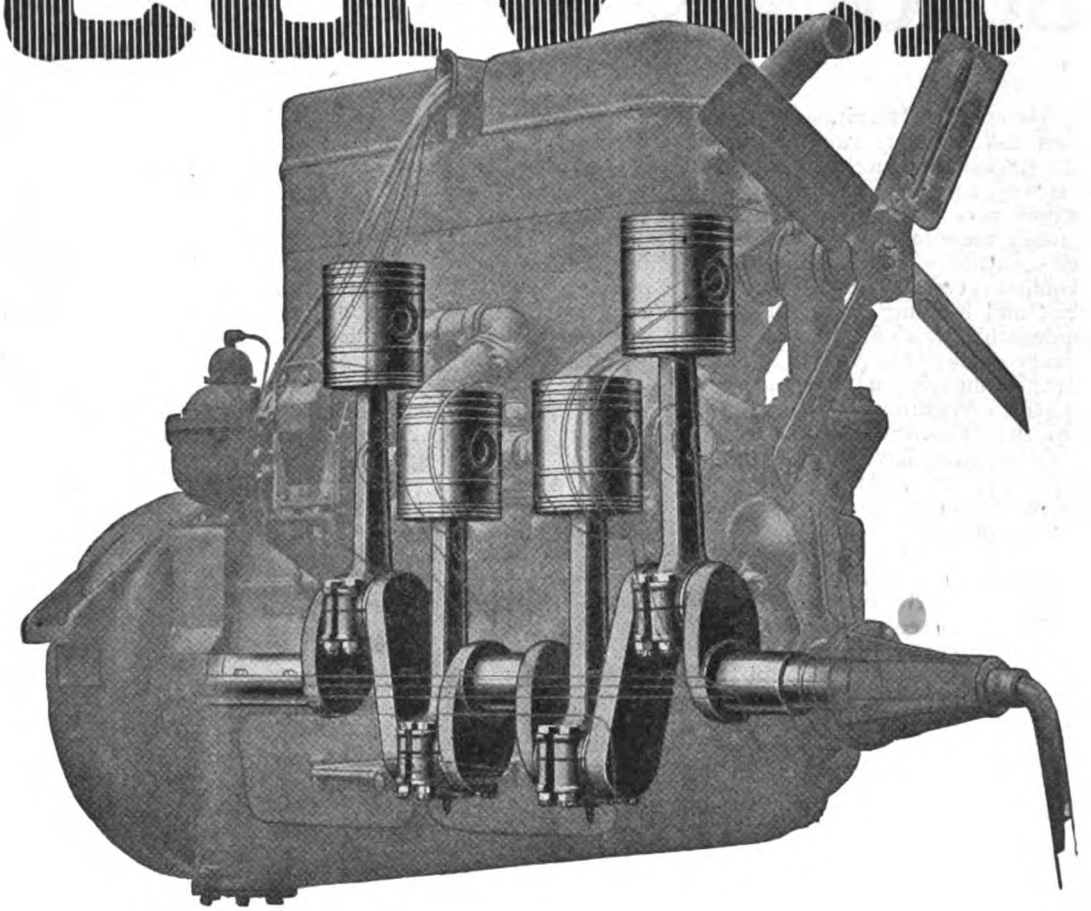
THE TRACTOR ENGINE Beaver



Beaver Crankshaft Big-as-Your-Wrist

The first time you see a tractor with a BEAVER Engine in it, *do this:* Grasp the crankshaft in your hands—see if you can close your fingers around it—you'll find mighty quick what we mean by BEAVER "bigness." You may never remember its diameter in inches, but *you'll never forget the 'feel' of its mammoth strength.*

A crankshaft big-as-your-wrist! Connecting rods, pistons, wrist pins, bearings—all working parts built on a scale you have *never seen* in such an engine! The minute you look at it, you sense its extraordinary power. You know it must be able to *perform.* Your respect for the tractor in which you find it goes *up.*

BEAVER Engine is not only a brute for strength but a bulldog for stick-to-it-iveness. It is a valve-in-head engine, burning kerosene. Its oiling and cooling are ***marvels of certainty.*** The almost instant accessibility to every wearing surface would decide you in favor of BEAVER if it had no other feature!

Several history-making tractors of 3-4 plow capacity use BEAVER Engine, and others will have it. If you buy one of these makes you'll find yourself in the possession of a power-plant that will be the envy of your neighbors.

BEAVER MANUFACTURING CO.
Milwaukee, Wisc.

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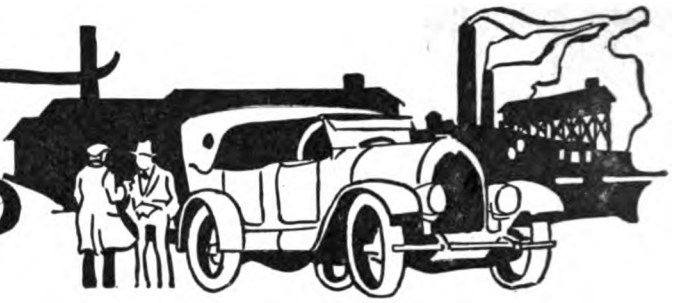
Trade Briefs & Factory Gossip



Trade News Via Detroit.

When asked about rumored intention to slacken production because of tight money, cost of labor and shortage of freight cars and building supplies, automobile manufacturers indicate improved weather will see things hum; but rumors persist, and the building material and building labor difficulties are undeniable, particularly the former. New wage demands in April are hinted.

Detroit industries have sent representatives to Washington to urge passage of the "Patent Office life saving bill." Other cities have done the same. The bill would raise Patent Office employes' wages and increase the force. Not to do this, it is realized, will endanger the organization, which would affect commerce very badly.

A record for driveaways was made when 600 Buicks recently plowed away in the snow from the Flint factory in one day. The fleet broke the first trails into Detroit and northern Ohio.

Some leading engineers have been retained by C. T. Silver, New York distributor and himself an expert in design, to help perfect a new car on which he started three or four years ago. Advanced body and chassis features are expected, as well as a popular price.

A 6-cylinder passenger car is to be made by the Winther Motor Car Co., Kenosha, Wis. It has been marketing trucks several years, and has a national distribution as well as one abroad. E. Z. Janes, who till recently covered the South for Kissel, is sales manager of the new division.

In 1919 the whole General Motors group produced 467,000 automobiles. The 1920 schedule is for 612,000. In the first five weeks of the year about 49,000 passenger cars, trucks and tractors were produced. In the same period in 1919, 23,000 was the total.

The Motor Wheel Corp., recently organized by combining the Prudden Wheel Co., Lansing; Auto Wheel Co., Lansing; Gier Pressed Steel Wheel Co., Lansing, and the Weis & Lesh Mfg. Co., Memphis, is offering, through two powerful underwriters, $2,500,000 8 per cent cumulative first preferred shares.

* * *

Gardner Plant Is Moved.

The general office and factory of the Gardner Motor Co., St. Louis, manufacturing the Gardner 4-cylinder car, have been moved to the large former home of Banner buggies, later of the Chevrolet Motor Co., of St. Louis, at Main and Rutger streets. This gives a number of advantages in manufacturing as well as shipping. Production is coming through very nicely.

* * *

Du Pont Motor Seeking Site.

Du Pont Motor Mfg. Co., Wilmington, Del., is reported seeking a site for quantity production of the new Du Pont car. Housing and labor conditions are said to have determined it to quit Wilmington.

* * *

Bailey, Burr and Jones Go Up.

I. R. Bailey now is assistant sales manager of Goodyear; he was manager of the mechanical goods department. D. R. Burr, who takes that position, was assistant manager, which position

I. R. BAILEY,
promoted from management of Goodyear's mechanical goods department to the position of assistant sales manager.

is filled by C. A. Jones, who was manager of the hose, railroad supplies and rubber band departments. Reasons for rises—exceptional executive and organization ability.

* * *

Congratulating de Guichard.

B. W. de Guichard, recently elected vice president of the Champion Ignition Co., Flint, Mich., was recipient of additional congratulations upon becoming a benedict, his bride having been Mrs. May Nash Miller, daughter of President Nash of Nash Motors.

* * *

Anti-glare laws are—on the books.

S. G. V. Motor Car Co. Reorganized.

The S. G. V. Motor Car Co., reorganized with Lovett A. Grant as president, will locate in Newark, N. J. The company originally made automobiles in Reading, Pa. In 1915 it went into receivership, when the Phianna Motor Car Co., with a Newark plant, was organized and bought the Reading interests, with the right to manufacture S. G. V. motors for use in its products. The manufacture of Phianna cars was transferred from Astoria some time ago.

* * *

Erdman Is Paragon's U. S. Director.

Walter G. Erdman, who since return from war service has been Michigan representative of the Vacuum Oil Co., now is director of sales for the whole country for the Paragon Battery Service Co. With him are T. P. O'Connor, former sales manager of the General Sales Co., Detroit, and Eugene Meek, of the Packard truck sales department.

* * *

Wilcox and Bradfield "On Patrol."

When George D. Wilcox, director of sales and advertising, and H. C. Bradfield, advertising counsel, of the Commerce Motor Car Co., reached Boston to attend the show, they rode to their hotel in a patrol wagon which Chief of Police Crowley had waiting at the gate, or rather the depot, while other arrivals scrambled for taxis.

* * *

First Two Ace Cars Shown.

The first two Ace cars, manufactured by the Apex Motor Corp., Ypsilanti, Mich., were put on view in that city's first automobile show. The company's schedule is for a 2,000 output this year. Ground has been broken for the main plant, 500x60 feet. The Ace will be marketed in the Western states.

* * *

N. Y. and Chicago Shows Compared.

The show committee of the National Automobile Chamber of Commerce reported that the New York show's attendance considerably exceeded Chicago's, but that business reported was greater at the latter.

* * *

New Marion Machine Units.

Four big new units of the plant of the Marion Machine & Foundry Co., Marion, Ind., recently were finished, and two more buildings are to be erected this spring—the administration building, and a foundry.

* * *

Time to take a tour is coming.

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The Maryland Pressed Steel Co.

of Baltimore, Maryland

ANNOUNCES

That it has acquired the manufacturing and sales rights of National and Pasco Wire Wheels.

Immediately all the resources of the great Maryland Pressed Steel Company will be concentrated upon the work of broadening and spreading further and further the present high prestige of National and Pasco Wire Wheels.

Policies, discounts, and trade relations now in effect will be continued and expanded with added force and energy.

Extensive sales and advertising plans for 1920 are about to be set in motion.

Address all communications to Maryland Pressed Steel Co.
Wheel Division
Baltimore - Maryland

(15)

National

Wire Wheels

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"We Have Tried Nearly Every Make of Tire With the Result That We Have Turned to Hoods"

Newton, Mass., Feb. 16, 1920.

Hood Rubber Products Company,
Watertown, Mass.

Gentlemen:

It certainly gives us great pleasure to tell you why we would not use any tires other than Hoods.

The reason is very plain and simple. In all our experience with Hood tires, we have never had to ask for an adjustment, the tires and tubes in most cases giving twice the guaranteed mileage.

We have tried nearly every make of tire put out, without getting even the mileage they guaranteed, with the result that we have turned to Hoods.

Figured on a mileage basis, no tire can compare in low cost with Hoods. Figured on a trouble basis, there is no tire that gives you less trouble. There's the answer. The good quality must be in them, or they never could stand the pounding that they get on one of our cars, the average mileage of which is 1200 miles a month.

At the present time we have a set on one of our cars that has already gone 1000 miles over the guarantee, and the arrows are still showing.

In fact, it is impossible to convince us that there is any better tire made than the Hood. Of course, we have to use the others when they come with the new cars that we buy, but only in rare cases do we get anywhere near the mileage that they guarantee. Then when you go for an adjustment, you get a song and dance about stone bruises, not enough inflation, etc. So the only safe way is to buy tires that you don't have to ask for adjustments on, and naturally we turn to Hoods. We have been using Hoods for the past six years. Wishing you continued success, we are,

Respectfully yours,
THE GRAPHIC PRESS.
(By Thos. J. Kavanaugh.)

THE motorist who wants to obtain mileage from a tire, instead of adjustments from his dealer, can profit by the experience of the Graphic Press, outlined above.

As Mr. Kavanaugh writes, "Figured on a mileage basis, no tire can compare in low cost with Hoods. Figured on a trouble basis, there is no tire that gives you less trouble. There's the answer. . . . We have been using Hoods for the past six years."

There is a Hood Tire dealer near you. If you don't know who he is, write our nearest branch for his name and address.

BRANCH:
SAN FRANCISCO, CAL.
118 New Montgomery St.

BRANCH:
LOS ANGELES, CAL.
1223 So. Olive St.

Canvas Rubber Leather HOOD FOOTWEAR

HOOD RUBBER PRODUCTS COMPANY

Cord Fabric Solid HOOD TIRES

Watertown, Mass.

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The Sign of
Sinclair Service

WE advertise this sign to the oil users of the world. We tell every oil user that he can get scientific lubricating service wherever he sees this sign.

We induce oil users to *go to the Sinclair Dealer* to get a free copy of our Recommendation Index, based on the Sinclair Law of Lubrication.

This brings *new* trade to the Sinclair Dealer and Sinclair Oils *hold* that trade.

Write for a copy of the Index.

SINCLAIR REFINING COMPANY, CHICAGO

Atlanta	Cleveland	Houston	Minneapolis	Omaha
Brockton	Denver	Kansas City	Newark	Rock Island
Buffalo	Detroit	Louisville	Norfolk	Tulsa
				Wichita

The LAW *of*
LUBRICATION

FOR EVERY MACHINE, *of* EVERY DEGREE *of* WEAR *there is* A SCIENTIFIC SINCLAIR OIL *to* SUIT *its* SPEED AND CONSERVE *its* POWER.

Please Mention "Motor West" When Writing to the Advertiser

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Lafayette Home-Building Plan.

At Mars Hill, 4½ miles from the center of Indianapolis, an independent community adjacent to the Lafayette Motors Co. plant is under way. Already there is a small community near the plant, but the Lafayette Homes Building Co., capitalized for $1,000,000, has begun building 200 modern homes to help house skilled workmen. A ridge of 110 acres, five blocks from the factory, has been selected. No two houses will be alike. There will be a business district, with stores, bank, hotel, garage and motion picture theater. There will be a modern grade school and a large park and playground.

The houses will be sold to employes at cost, partial payment in cash, and monthly installments of $20 to $75. A special fireproof concrete construction will be favored. Each will have sewer, furnace, electric lights and gas.

E. C. Howard, of the company, says Mars Hill's residential section will not in any sense be an "industrial settlement." Some of the officers and division heads will reside there.

* * *

Lafayette Production Soon.

With most of the machinery in, and factory personnel nearly full, Lafayette Motors Co. officials are confident the plant in Indianapolis will begin production in May and deliveries be made in June. Expertness in all departments is assured. Many of the men have come from other automobile plants, without solicitation. Others have gained invaluable experience in airplane motor shops, Government aviation camps and on French flying fields.

The completely appointed enclosed Lafayette touring sedan which was at the New York and Chicago shows not only has had hard workouts on many "impassable" roads near Indianapolis, but has gruelled around the brick speedway there. Another Lafayette, touring type but completely equipped, has been piling up mileage for months.

* * *

Waite, Grant Sales Head, Travels.

George S. Waite, sales director of Grant Motor Car Corp., Cleveland, is touring cities west of the Mississippi, expecting to return home about April 15. He will reach Seattle, Portland, San Francisco, Los Angeles and other Pacific Coast cities. The demand for Grant light sixes in this country is so heavy that no new export orders will be taken at present. Scandinavia, England, India and the Straits Settlement have been heavy buyers. In many American cities the dealers have refused wholesale orders and are giving all their attention to retailing.

* * *

Bour-Davis to Produce 1500 Cars.

W. F. French, president and general manager of the Louisiana Motor Car Co., Shreveport, La., manufacturers of Bour-Davis motor cars announces that he has received assurances on shipments of parts which will permit the company to produce a minimum of 1500 cars. More than this number have already been contracted for. The 1920 line includes a new touring model and roadster, each with 126-inch wheelbase. They are finished unusually well, having such features as lined top, automatic curtains, Marshall cushion springs and a variety of other high grade features.

* * *

New Comet Automobile Prices.

The Comet Automobile Co., Decatur, Ill., announces these advances in prices: Comet Six, model C-53, passenger car, from $2,150 to $2,350; Comet 1½-ton triple thread worm-drive truck, from $1,750 to $1,950.

* * *

Dutton Succeeds Haney & Co.

W. M. Dutton & Sons Co. succeeds, by change of name, J. H. Haney & Co., Hastings, Neb., jobbers of automotive equipment and saddlery goods, and Western Nebraska distributors of Racine tires. Working organization and stock remain the same and all the old firm's obligations are assumed and new assets have been added. A new six story fireproof building will be occupied about July 1.

* * *

Rouse Up in General Motors.

C. F. Rouse, who was assistant sales manager of the General Motors Truck Co., Pontiac, has been promoted to head the new department of sales promotion. M. J. Kates succeeds to his old place.

Cole Eight in Latin America.

Cole Aero-Eight popularity in South America is attributed to its remarkable road race performances in Argentina and Uruguay. R. Borrat Fabini, distributor in Montevideo, Uruguay, is an ardent race follower, and E. Blanchardi has been the winning pilot, having dropped several South American records, all with one stock roadster. The Aero-Eight won from large fields of American and foreign cars in two recent events, a 200-mile road race at Buenos Aires, and a 120-mile race between Montevideo and Minas. Bad roads put many cars hors du combat, early. Winning times were 4:30:00 and 2:30:00, respectively.

* * *

Standard Buys Welding Rights.

Canadian rights to the Lloyd oxy-acetylene welding method and machinery for making steel tubing, patented in 1910, have been bought from the Automatic Welding Co., Menominee, Mich., by the Standard Parts Co., Cleveland, for use in its Woodstock, Ont., factory. The Standard already had United States rights.

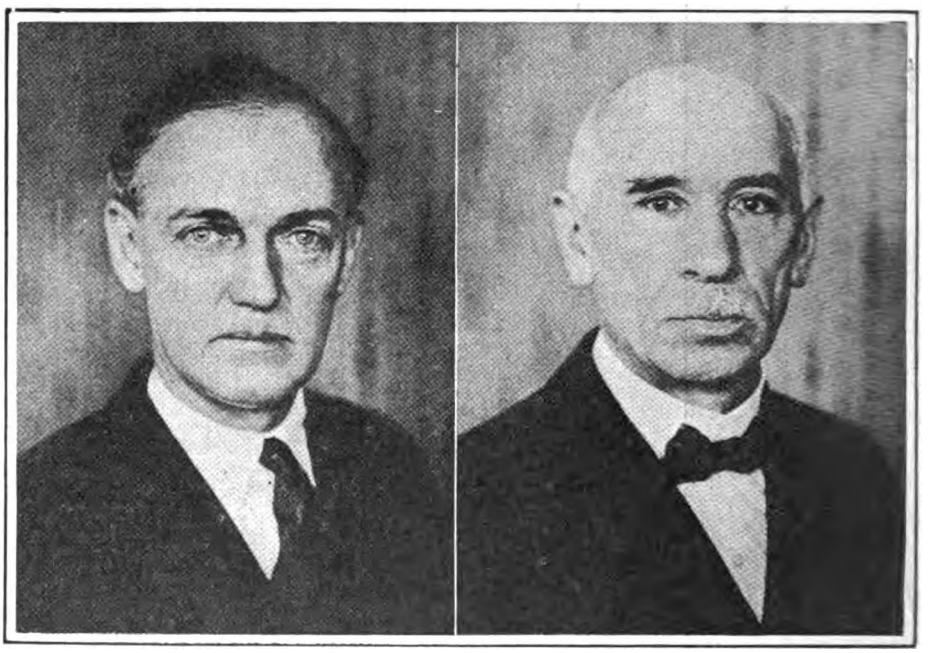
* * *

Prices of Stutz Advance $250.

Effective with shipments from the factory at Indianapolis April 1, prices on all models of the Stutz are up $250.

* * *

"Shortage ahead; order now," say makers. Coast dealers weep at this. They ordered long ago.



AT LEFT, J. C. EATON; AT RIGHT, V. V. TORBENSEN; OF THE EATON AXLE COMPANY.

The enormous plant of the recently organized Eaton Axle Co., being erected in Cleveland, will be among the world's largest plants devoted to making motor truck and passenger car axles. In 1892 V. V. Torbensen, head of the engineering department, inventor of the Torbensen axle and founder of the Torbensen Axle Co., had never seen an automobile. He was running a small boat factory in New Jersey. He read "horseless carriage" articles, sold out and during three years worked with engineers in France and Germany. Returning, he found the De Dion-Bouton Co. beginning to make automobiles in New York. Their car was, the axle was not. He became their supervising engineer. His first axle patent, based on the internal gear, was in 1900, when there were some 30,000 automobiles in the country. He quit and began making the Torbensen automobile in Newark. He also did repair work and made axles, during nine years. By 1910 he gave truck axles special attention and had built a number of trucks to try his ideas. Then he met J. C. Eaton, who was running a cream separator plant in Bloomfield, N. J., who had determined to leave it and manufacture axles. The two combined and formed the Torbensen Axle Co., beginning in a small Newark loft. In 1914, capacity was taxed. They moved to Cleveland in 1915. They are still together, in the new Eaton Axle Co., the organization of which has been stated in "Motor West." It is a $5,000,000 company. Its first factory buildings, to cost $1,000,000, will be ready May 1; deliveries will be ready by early summer and by autumn the capacity is expected to be doubled.

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The Standard Spark Plug of the World

At the new Los Angeles Speedway, AC Spark Plugs got away to a triumphant start for another season of gruelling, competitive achievement.

They rode to non-stop victory with Jimmy Murphy and his Duesenberg in the 250-mile inaugural race of 1920.

They stood up, as AC's always stand up, under the terrific engine speeds that were essential to the average that the winning Duesenberg made—103.2 miles an hour.

AC's were the logical choice of the majority of the drivers that participated in the opening race of the 1920 season. In addition to the winning Duesenberg, the cars that finished third, fifth, sixth, seventh and ninth were sparked by AC's.

The positive assurance that their customers can ask nothing of the spark plugs they buy which these spark plugs cannot give is had only by those dealers who concentrate on the AC line.

Write today for complete dealer information.

Champion Ignition Company, FLINT, *Michigan*

These manufacturers use AC Spark Plugs for factory equipment

Acason Trucks
Ace
Acme Trucks
Advance-Rumely Tractors
Ahrens Fox Fire Trucks
American Beauty
American-La France
Anderson
Apex Trucks
Apperson
Appleton Tractors
Argonne Four
Associated Engines
Atco Trucks
Austin Mfg. Co.
Available Trucks
Avery Tractors
A & T Tractors
Bates Steel Mule Tractors
Beaver Motors
Beck-Hawkeye Trucks
Beeman Garden Tractors
Bellanger Freres (France)
Bessemer Trucks
Betz Trucks
Birch
Bour-Davis
Braddon
Bradley
Briggs & Stratton Motor Wheel (formerly Smith)
Brinton Tractors
Brockway Trucks
Buda Motors
Buffalo Motors
Buick
Bullock Creeping-Grip Tractors
Cadillac
Cameron
J. I. Case T. M. Co.
Chandler
Chevrolet
Chicago Trucks
Clark Tractors
Cleveland
Cole
Collier Trucks
Comet
Commonwealth
Conestoga Trucks
Continental Motors
Curtiss Aeroplanes
Daniels
Dart Trucks
Davis
Defiance Trucks
Delco-Light
Denby Trucks (Canada)
Diamond T Trucks
Diehl Trucks
Dodge Brothers
Doman Engines
Domestic Gasoline Pumping Engines
Dort
Duesenberg Motors
Duty Trucks
Dynelectric Plants
Eagle Tractors
Elmira
Essex
Excelsior Motorcycles
Fairmont Ry. Motors
Federal Trucks
Falls Motors
Flour City Tractors
Frontmobile
F-W-D Trucks
Galloway Engines
Gary Trucks
Genco Light
Glide
Golden West Trucks
Gramm-Bernstein Trucks
Gray Dort (Canada)
G. B. S. Motors
G. M. C. Trucks
Hackett
Hahn Trucks
Hall Trucks
Harvey Trucks
Hatfield
Haynes
Hendrickson Trucks
Herschell-Spillman
Highway-Knight Trucks
Holt Tractors
Howell Tractors
Hudson
Hupmobile
Hurlburt Trucks
H. R. L. Trucks
Independent Trucks
Jackson
Johnson Motor Wheel
Jordan
J. V. B. Marine Motors
Kalamazoo Trucks
Karavan Trucks
Kearns Trucks
Kent Concrete Mixers
Keystone Trucks
Kissel Kar
Kleiber Trucks
Klemm Trucks
Knox Tractors
Koehler Trucks
Lalley-Light
Lawson Tractors
Leach Power-Plus Six
Liberty
Linn Road Tractors
Locomobile
L. M. C. Trucks
Maccar Trucks
Maibohm
Marmon
Master Trucks
Maxim Fire Trucks
Maytag
McLaughlin (Canada)
Menominee Trucks
Meteor
Midwest Engines
Milwaukee Gasolene Locomotives
Minneapolis Motors
Mitchell
Monroe
Moreland Trucks
Napoleon Trucks
Nash
National
Nelson
Nelson Tractors
Nelson & Le Moon Trucks
Netco Trucks
New Britain Tractors
Noble Trucks
Oakland
Old Reliable Trucks
Oldsmobile
Oneida Trucks
Owens Light & Power Plants
Packard
Paige
Pan
Parker Trucks
Paterson
Patriot Trucks
Perfect Power Sprayers
Phianna
Pierce-Arrow
Pilot
Pioneer Tractors
Pittsburgher Trucks
Porter
Premier
Ranger Trucks
Red Wing Thorobred Motors
Reo
Re Vere
Reynolds Trucks
Riker Trucks
Roamer
Roberts Motors
Robinson Fire Trucks
Rock Falls
Rowe Trucks
Rutenber Motors
R. & V. Knight
Samson Tractors
Sandow Trucks
Sanford Trucks
Sawyer-Massey Tractors (Canada)
Saxon
Scripps-Booth
Scripps Motors
Signal Trucks
Singer
Speedway Motors
Standard "8"
Standard Trucks
Stanwood
Stearns-Knight
Stearns Tractors
Sterling Engines
Sterling Trucks
Stevens-Duryea
Stewart
Stewart Trucks
Stockton Tractors
Stoughton Trucks
Straubel Engines
Sullivan Trucks
Super Trucks
Swartz Lighting Plants
S-S-E-Co.
Texan
Tiffen Trucks
Tioga Tractors
Titan Trucks
Tower Trucks
Trego Motors
Turner-Simplicity Tractors
Union Marine Engines
United Trucks
Universal Trucks
Van Blerck Motors
Veerac Motors
Vim Trucks
Vogue
H. J. Walker Motors
Wallace Tractors
Walter Trucks
Ward La France Trucks
Westcott
White
White Hickory Trucks
Whitney Tractors
Wichita Trucks
Wilson Trucks
Wisconsin Motors
Wolverine Tractors
Woodery Ry. Motors
W. S. M. Motors

U. S. Pat. No. 1,135,727, April 13, 1915. U. S. Pat. No. 1,216,139, Feb. 13, 1917, Other Patents Pending

Please Mention "Motor West" When Writing to the Advertiser

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Speaking of CONCRETE ROADS STREETS and ALLEYS

53,000,000 Square Yards Were Placed Under Contract During 1919—

More than twice the total of any previous year, and equivalent to over 5,000 miles of 18-foot concrete pavement.

Every state—your state—contributed to this wonderful record. Watch 1920!

States in Which Contracts for More than 30 Miles of Concrete Road Were Let During 1919

	Miles		Miles
Arkansas	87	New Jersey	87
California	210	New York	329
Delaware	55	Ohio	239
Georgia	90	Oklahoma	69
Illinois	570	Oregon	42
Indiana	280	Pennsylvania	491
Kansas	69	Texas	59
Maryland	95	Utah	84
Massachusetts	31	Virginia	91
Michigan	169	Washington	161
Minnesota	79	West Virginia	87
Mississippi	38	Wisconsin	132

North, east, south and west—
CONCRETE is the choice.

PORTLAND CEMENT ASSOCIATION

Atlanta, Chicago, Dallas, Denver, Des Moines, Detroit, Helena, Indianapolis, Kansas City, Los Angeles, Milwaukee, Minneapolis, New York, Parkersburg, Pittsburgh, Portland, Oreg., Salt Lake City, San Francisco, Seattle, St. Louis, Washington

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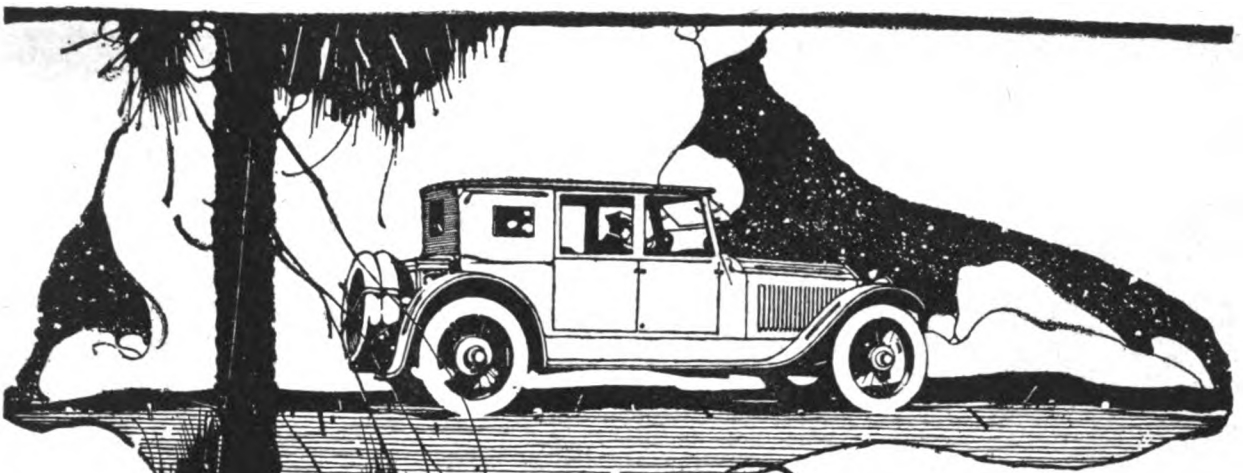

Proved by millions of miles

Straight city miles, rolling country miles, steep mountainous miles—millions of miles stretching from city to city and from state to state, have proved the dependability, the smooth, unfailing service quality of "Red Crown" gasoline.

"Red Crown" is all-refinery gasoline with the full and continuous chain of boiling points necessary for ready starting, quick and smooth acceleration, steady, dependable power and long mileage. It is made to meet the requirements of your engine. Look for the "Red Crown" sign before you fill.

STANDARD OIL COMPANY
(California)

RED CROWN GASOLINE

The Gasoline of Quality

The Gasoline Situation

The demand for gasoline is increasing faster than the crude oil supply. The result is a threatened serious shortage of gasoline. Knowing this fact, do what you can to conserve gasoline. Use what gasoline you must; waste none.

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Concerning Goodyear Tire Price Raise.

In recently stating an advance in prices, after having held them at 15 to 20 per cent lower, nearly a year, than prices were during the war, Sales Manager J. R. Reilly, of Goodyear, said rising manufacturing costs necessitated it. Substantially the new prices are the same as those prior to May 12, 1919, when Goodyear was the first to reduce. It then had on hand ample materials, bought at medium cost. Times have changed in this respect, hence the increase in prices, especially as the company finds demand for its products just a little ahead of its ability to supply. The new Pacific Coast plant will help relieve this. The company is much pleased with its cotton mill outlook particularly. Using its own mills, it finds the fabric 5 per cent stronger than it could buy in the market.

* * *

Stronghold Tire Prices Rise.

The Rubber Products Co., Barberton, O., announces that due to high cost of materials and labor, it has had to raise prices conservatively on Stronghold cord and fabric casings, red and gray tubes, and the Barberton tire.

* * *

New Prices on Paige Models.

The Paige-Detroit Motor Car Co. announces new prices on Paige models, as follows: 6-42 Glenbrook, 5-passenger touring, $1,770; 6-42 light six coupe, $2,495; 6-42 5-passenger sedan, $2,595; 6-55 Essex, 5-passenger touring, $2,400; 6-55 Larchmont, $2,500; 6-55 5-passenger coupe, $3,260; 6-55 7-passenger sedan, $3,360.

With regard to price policy up to June, there is no definite assurance that there will be no further increases. Firms that furnish materials and parts do not guarantee prices and very often increases are announced without warning.

* * *

Murray Building, Not Moving.

The Murray Motor Car Co., Newark, N. J., makes it plain that it has no connection with any concern of similar name in Pittsburg, Pa., and that it is not moving any plant from Pittsburg to Newark, but that it is erecting its own factory on a 4½-acre site in Newark for the purpose of building a six-cylinder car. The name of the machine will be Murray and it will retail at from $4,250 to $6,250. The personnel: President, William B. Cubberley, of the Reeves-Cubberley Engine Co.; vice president in charge of engineering, Albert J. Romer; secretary and general counselor, Harry Green; sales and advertising manager, George O. Starr.

* * *

International I. R. Corp. Expansion.

The business of the International India Rubber Corp., South Bend, Ind., has increased so greatly that on January 1, 1920, they had unfilled orders for nearly $1,000,000 worth of. tires. Sales so far during 1920 have exceeded those of 1919 by fully 300 per cent. The present factory capacity, together with plant additions being erected, are not sufficient to supply this increased business, and at a recent meeting of the board of directors it was decided to increase the capital stock from $1,000,000 to $2,500,000.

A sufficient amount of the new stock has already been subscribed by present stockholders to assure the construction of plant additions which will more than double the present plant capacity. The present plant is operating night and day.

* * *

Cameron Takes Bridgeport Plant.

The Cameron Motors Corp., of New York, announces the establishment of a plant at Bridgeport, Conn., where it has licensed the Liberty Mfg. Co. plant for the production of Cameron 4-cylinder air cooled motors in large quantities. Owing to the tremendous demand for small 4-cylinder motors both in this country and abroad, due primarily to the rising cost of fuel, the first size of motor into production in this new plant is 2⅝x4, 4-cylinder, suitable for light passenger cars, delivery wagons and cultivators.

The motor is being produced complete with 3-speed sliding gear transmission and plate clutch, thus supplying a need which has been developing for several years.

Production of the Cameron 3x4½ 6-cylinder motor is already well under way at the Shelton plant, this motor appearing first on the market in the new Parenti light car, now being built in Buffalo.

* * *

General Motors Total is Huge.

The combined units of the General Motors Corp. produced 467,000 automobiles in 1919. The 1920 schedule is for 612,000. The output the first five weeks of this year, including passenger cars, trucks and tractors, was about 49,000; in the same period last year, about 23,000.

* * *

McComb, Russel General Manager.

Henry G. McComb, pioneer automotive engineer, has been made general manager of the Russel Motor Axle Co., by the McCord Mfg. Co., owner of the other company. Mr. McComb recently went to Europe to investigate truck design for Eastern makers.

* * *

Mutual Motors' New Address.

The Mutual Motors Co. has changed its address from Jackson, Mich., to North Tonawanda, N. Y. The company conducts factory service for the following makes of tires manufactured by it: Marion-Handley, model A and B; Marion H; Marion K; and Imperial 64 and 66.

* * *

New Pennsylvania Rubber Plant.

In Buffalo, within a mile of the new Dunlop factory, the Pennsylvania Rubber Co., of Jeannette, Pa., it is said, will erect a plant for reclaiming rubber. A 97 acre tract on the Niagara River has been secured.

Change in Long-Wear Name.

At a special meeting, stockholders of the Long-Wear Rubber Co., of Elyria, O., decided to change the name to the Long-Wear Tire & Rubber Co.; to increase the capital from $500,000 to $5,000,000, divided into $700,000 preferred and $4,250,000 common; and to absorb the Quality Tire & Rubber Co., of Anderson, Ind.; also to move the offices to Anderson. A large cord-tire-making addition to the Elyria plant will be built this spring. The Elyria plant will have a capacity of 300 Long-Wear cord tires per day, and the Anderson plant 1,000 fabric tires and 2,000 tubes per day, in addition to a complete line of "Anderson Quality" fabric tires and special jobbers' brands.

General management remains in the hands of Frank W. O'Brien, under whose guidance output has grown from 50 tires a day in 1918 to more than 1,000 a day. It is said the company intends to expand by purchasing and operating plants in various cities, as opportunities occur.

* * *

Cole Solves Shipping Problem.

Not wholly, but partially, the Cole Motor Car Co., Indianapolis, has solved the problem of shipping cars in this manner: Scores of flat cars have been switched into its sidings and loaded. One trainload of more than 20 flat cars, carrying Aero-Eights, recently went to Denver, guarded by several men. Other shipments were to cities within a reasonable radius. Driveaways are encouraged. Despite export difficulties, that department had its biggest month in January, shipping to many parts of the world. As for raw materials, as much space is being used for it as is needed to build the cars themselves.

* * *

Marathon Consumers' Prices.

In announcing its new consumers' net price list, the Marathon Tire and Rubber Co., Cuyahoga Falls, O., comments that other companies have increased from 18 to 20 per cent, while its average rise is only 10 per cent, making its list only 10 per cent above standard, instead of 20 to 25 per cent higher as heretofore.

* * *

Chrysler With Rainier Corp.

P. C. Chrysler, one of the old guard in automotive circles, has joined the Rainier Motor Corp. as assistant to P. N. Lineberger, sales manager. Mr. Chrysler has been in the motor truck business from the beginning and no man knows it better.

* * *

Amazon Salesmen Meet.

Managers and salesmen of the Amazon Rubber Co., Akron, O., representing territory from coast to coast, met at Akron March 15, 16 and 17—the first get-together meeting since the new Amazon organization was formed.

* * *

New International India Prices.

March 8 a new price list was put in effect by International India Rubber Corp., South Bend, Ind.

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GILL

The Perfect One Piece Piston Ring

"See that joint? That's the reason why I install Gill Piston Rings on my jobs. It's the one piston ring that I consider mechanically perfect."

When you hear a mechanic talking like that you may be sure there is something about the Gill Piston Ring that makes it different from any other. Mr. Dealer, try it out this way. Show a Gill Ring to the best automobile mechanic you know and see if he doesn't endorse what the man in the picture is saying.

One look at the double step interlocking joint shows him that the Gill Ring can expand from 1/8" to 3/16" without any loss of compression. That means it will adjust itself to oversize, worn or out of round cylinders within reasonable limits.

Look into this piston ring proposition for yourself and when you compare the Gill with any other ring on the market you will be convinced like the thousands of other men who handle this ring exclusively.

Send for the new Gill Piston Ring Size Directory, complete, convenient, and full of just the information you need. It is free to the trade.

Dealers—Ask your jobbers about them
Jobbers—Write to us for information

The Gill Manufacturing Company
8301 South Chicago Ave., Chicago, Illinois

Sole Foreign Agents:
AUTOMOTIVE PRODUCTS CORPORATION
Woolworth Building, New York, N. Y.

Pacific Coast Branches:

Gill Piston Ring & Sales Co.
1522 S. Grand Ave.,
Los Angeles, Cal.

Gill Piston Ring Co.
803 Van Ness Ave.,
San Francisco, Cal.

Gill Piston Ring Co.
723 E. Pike St., Seattle, Wash.

Gill Piston Ring Co.
409 Burnside St. West, Portland, Ore.

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KINGSTON
CARBURETORS

KINGSTON CARBURETORS, made by the largest carburetor factory in America, are now offered for four well-known automobiles. In each instance the carburetor has been built specifically for the needs of the motor for which it is offered. It is MADE FOR THAT CAR.

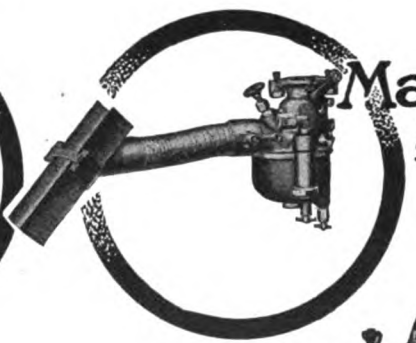
The Kingston carburetor is mechanically correct. It is constructed to give dependable service at all times, in all conditions, and in all weather.

It not only means a smooth-running motor, more powerful, more consistent, more dependable, but it means more miles to the gallon of fuel.

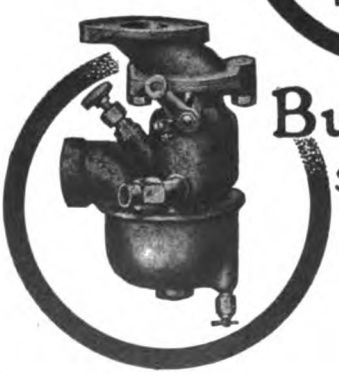
It is offered only after conclusive tests, and it is fully guaranteed by the makers. It is simple, efficient, trouble proof.

Four special Kingston models are listed below.

Chevrolet
$12.50



Maxwell
$12.50



Buick
$16.50

Dodge
$15.00

BYRNE, KINGSTON
& COMPANY

Department S

KOKOMO, INDIANA

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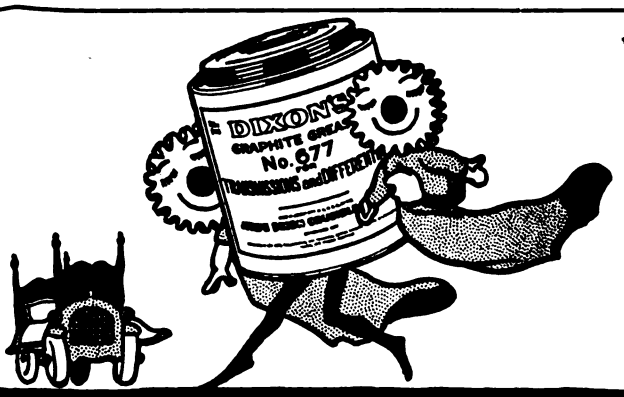

Keeps Them Quiet

No grinding, squeaking, grumbling gears when you're using Dixon's. It's the one lubricant you can depend upon to keep them quiet.

Dixon's obliterates the roughness that exists on all gear and bearing surfaces. It works into those tiny depressions and builds up a smooth, oily veneer that successfully wards off friction.

DEALERS

There's no reason why you shouldn't be getting the Dixon business in your community. Write us about it.

DIXON'S Gear LUBRICANT

With your transmission and differential runing in Dixon's, you can rest assured your gears are friction-free. For Dixon's doesn't "squeeze out" under pressure. Nor is it affected by heat or cold like plain oil and grease.

Year around it means smoother, sweeter action—less noise--more power—and it helps keep down gas and repair bills.

Try it and see. Your dealer has it.

JOSEPH DIXON CRUCIBLE COMPANY
Established 1827 Jersey City, New Jersey

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SCORED CYLINDERS

Repaired by "Lawrence Patent Process" with Silver-Nickel Alloy, fused electrically. No warping or enlarging of bore. Same piston and rings fit. All work absolutely guaranteed. Reshipped 24 hours after received. Endorsed by all manufacturers. Also burnt and oil scores repaired. Plants in all principal cities.

Established 1862
L. LAWRENCE & CO.

SAN FRANCISCO, 116 Hyde St. — LOS ANGELES, 1030 South Grand Ave.

All infringers will be prosecuted to full extent of the law.

To Build Dorris and Astra Cars.

The Dorris Motors Corp., of St. Louis, Mo., a new and re-organized company with $3,000,000 capital, has succeeded the former Dorris company and the Astra Motors Corp., the latter company having been merely in the organization stage.

The manufacture of Dorris cars will be continued by the new Dorris company to fill the demand from the established market. The new Astra car is also in production and was exhibited for the first time at the recent St. Louis automobile show.

The Astra car will be a four-cylinder model, of a light class, weighing within 2,000 pounds. Engine bore and stroke is 3⅛x4½, giving a 16 horsepower rating. Well known standard units will be used and much emphasis has been laid on the car's appearance. It will have a V-type radiator, with a fairly low-hung body. The Astra will sell at around $1,350.

* * *

Kiken, Buda Service Manager.

R. A. Kiken is service manager of the engine division, the Buda Co., Harvey, Ill., it being a new position for efficient and prompt disbursement of spare parts. Mr. Kiken's engine experience dates back to February, 1910, when he joined Buda, and since when he has been in practically every branch of the factory, including stores, production, efficiency and sales. He was in the army two years and has two overseas stripes.

* * *

"Flu" Tries to Get Reeves.

Like many others, Alfred Reeves, general manager of the N.A.C.C., was climatically careless during the Chicago show, when the "flu" was downing many. A friend advised him he was taking a risk, wearing a heavy overcoat in an overheated hotel corridor. He took the tip. Yet, later, at Davenport, Ia., he took the "flu," had to discontinue a factory circuit, and returned to New York to "rest" in front of a pile of work.

* * *

Cooper Now Keystone Sales Head.

M. S. Cooper, who has been with the commercial car division of Willys-Overland, recently resigned to become sales manager of the Keystone Motor Truck Corp., Philadelphia.

* * *

Name Changed to Multibestos.

The Standard Woven Fabric Co., Walpole, Mass., which makes Multibestos brake linings, has changed its name to the Multibestos Co.

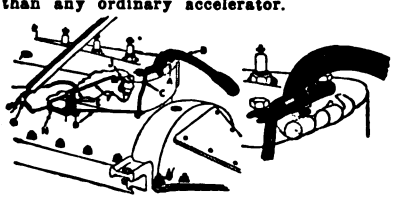
U. S. Tire District Plan.

The United States Tire Co. has divided the country into six divisions, each to be under a sales manager, working directly under General Sales Manager George S. Shugart.

ADDITIONAL CLASSIFIED.

DEMAND
THE
LEMCO
FORD FOOT ACCELERATOR
BECAUSE

It will save you one hour's time in making Installation and cost you no more than any ordinary accelerator.



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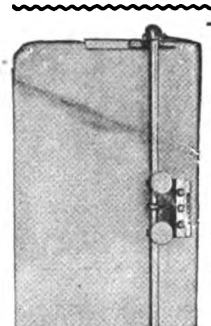
Lemco Mfg. Co.
LOS ANGELES, CAL.

1042 S. Olive St. Main 2858

WIND DEFLECTORS



SIDETRACK the WIND
Attach PACIFIC
WIND DEFLECTORS
Ride in solid comfort. Keep that draft off. You not only owe this added comfort to yourself, but to your passengers.
No Perforations in Glass
Rust-Proof Brackets
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Not a novelty, but a proven, practical necessity. Accept no substitutes, demand Pacifics.
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TIRE PATCHES

TIRE PATCHES
EVERLASTING MFG. CO.
Manufacturers and Distributors of High-Grade Auto Necessities.
528 Pacific Bldg., San Francisco, Calif.
Everlasting Tire Repair Kits
50c *and* $1.00
Rebuilt Tires Guaranteed 10,000 Miles
Inside Tires Guaranteed Against Blowouts
New Advance of Tires 25%
Why Not Rebuild Them?
Agents Wanted—Exclusive Territory

Offering of Handley-Knight Stock.

Through a number of houses, underwriters of the Handley-Knight Co., which as recently announced in "Motor West" owns approximately 40 acres with excellent rail facilities in Kalamazoo, are offering 20,000 shares at $32.50 per share. The stock is to be listed in the Detroit and other exchanges. Earnings during the first two years are estimated at 150 to 200 per cent. Mr. Handley recently resigned as division manager of Willys-Overland at Toledo. The operating heads include other first class former Overland Willys men. The Knight sleeve valve motor is a feature. The company's authorized capital is 80,000 shares.

Temporary engineering and purchasing headquarters of the new Handley-Knight Co. have been established in Toledo. President, J. I. Handley, decided it was more convenient to handle the preliminary work where he lives, while the new factory buildings are under construction in Kalamazoo.

A. E. Schaaf will devote his attention particularly to the direction of engineering and production. He brings to the company a rare fund of experience and knowledge of the better type of car. Until recently he was operating head of the F. I. A. T. Company at Poughkeepsie, N. Y., and was very active in assisting the Government after the plant was taken over during the war.

Harry L. Dunn, for many years assistant purchasing agent of Willys-Overland Co., will be purchasing agent.

Walter A. Olson, formerly division manager in charge of production of the Willys-Overland factory is works manager.

* * *

Craig Heads Stewart Truck Sales.

Charles C. Craig has been advanced to the position of sales manager of the Stewart Motor Corp., Buffalo, N. Y. following the resignation of W. J. Male who has taken Stewart truck distribution for Buffalo and vicinity. Craig's experience with the automotive industry began fourteen years ago and he has been with the Stewart organization for more than three years, traveling to all parts of the country as district sales manager. Burt R. Barr has been named assistant sales manager. He has had charge of Stewart advertising for the last two years.

Is your son at an agricultural college or just a college?

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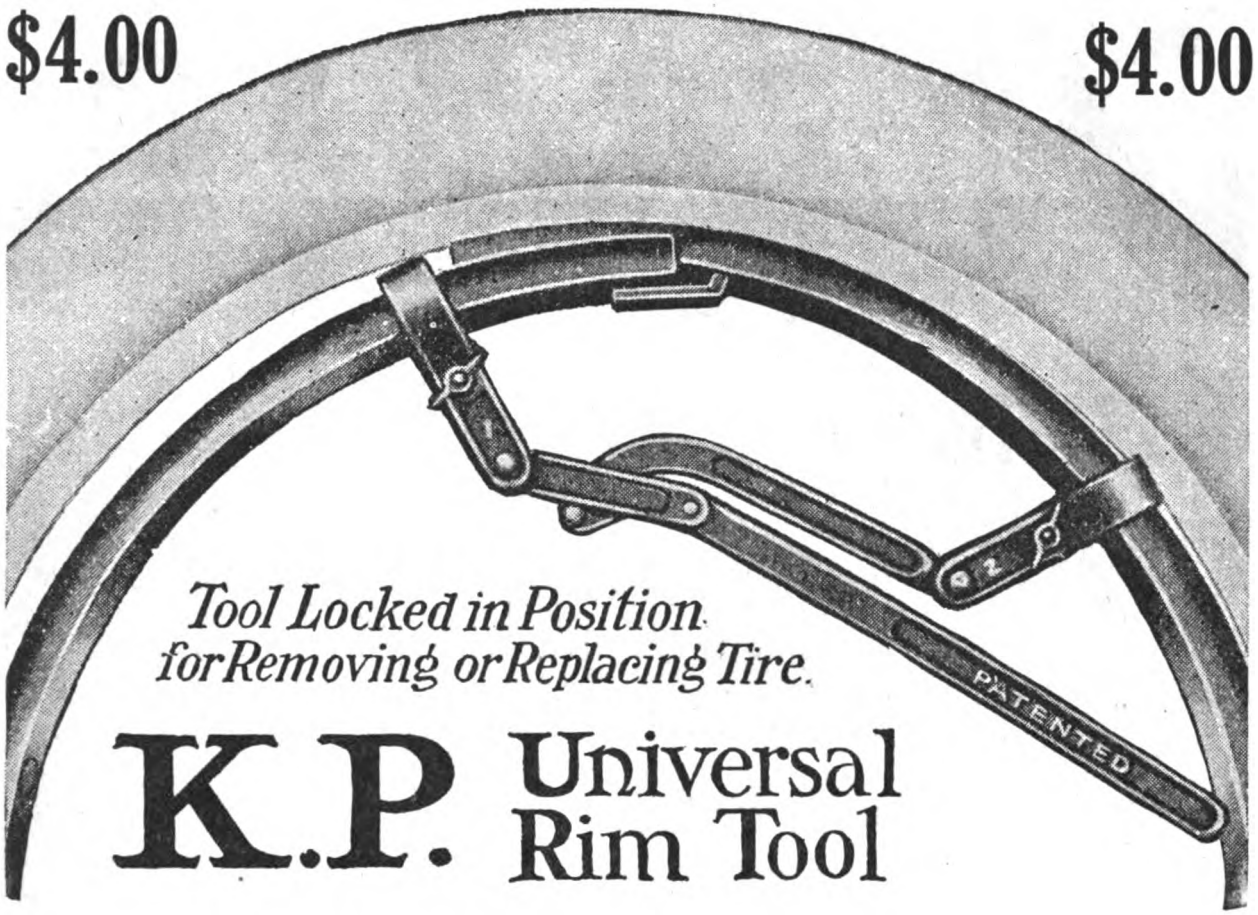
$4.00 $4.00



Tool Locked in Position for Removing or Replacing Tire.

K.P. Universal Rim Tool

The Easiest Way to Remove Tires from Split Rims

Fits all types of cross-cut demountable rims.

Collapses a rim no matter how badly a tire may be stuck to it.

Holds rim collapsed while tire is being removed or replaced.

Forces the rim back on the tire again with the utmost ease and locks the rim in its original position; even in the case of tires which are undersized—an entirely exclusive and important feature.

PRICE $4.00

NORTON-MUNTER CO., 1603 L. C. Smith Building, SEATTLE, WASH.

THE K. P. PRODUCTS CO., Inc., 250 West 54th Street, NEW YORK, N. Y.

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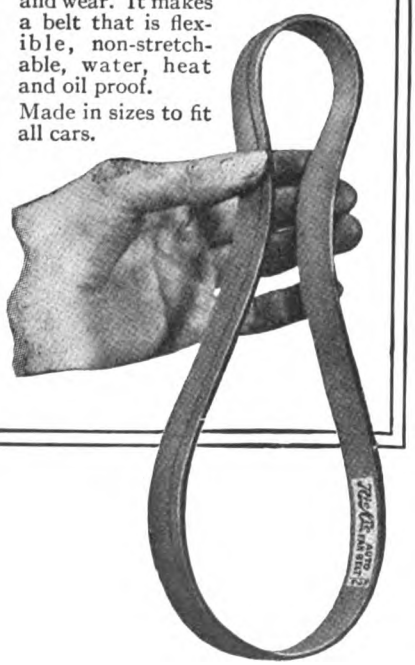
Rie Nie

Trade Mark Reg.

Here's a New Fan Belt That's Real!

You know the old trouble with fan belts—they break—they crack, stretch and loosen. **Here, then,** is a belt that is a **real** fan driver. Built in an entirely new way of tough, lightweight fabric, all cut on the bias. Enclosed in a special jacket giving a wrapped edge which prevents ply separation. This jacket encloses the filler plies—all vulcanized in one piece. There is but one raw edge and this in the middle of the outer surface, away from the pulleys and wear. It makes a belt that is flexible, non-stretchable, water, heat and oil proof.

Made in sizes to fit all cars.



A Patch That Car Owners Like

YOU can sell this patch to your best friend—and have him like you better for it. The Rie Nie makes the roadside repair quick and permanent—needs no tools and no heat, yet it holds like a vulcanized job. Will mend anything made of rubber or vulcanized fabric.

Two kinds, all rubber or fabric backed; will cover a blow-out or a pinhole. Comes in a strip to be cut and used economically for any sized puncture.

Two sizes, $1.00 and 50c.

Write for catalog of other Rie Nie products today.

Rie Nie Products Manufactured Only by

DURKEE-ATWOOD COMPANY

MINNEAPOLIS U. S. A. CLEVELAND

In Canada: Canadian Durkee-Atwood Co., Ltd., Toronto

Automotive Products

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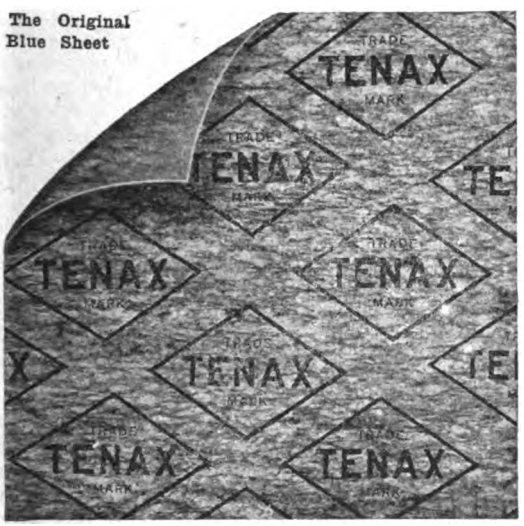
An Ideal Compressed Asbestos Packing For Every Job

TRADE

TENAX

MARK

A Saver of Help, Time and, Costs



Saves because it makes repair work **permanent.** When TENAX is used the job will last for years. Saves extra help and time and costs that result from use of inferior packings.

TENAX cannot squeeze out, rot, burn or melt. Easily resists most intense temperature and highest pressure. Your men can save money for you using TENAX—they can pack confidently with TENAX whether it is to be subjected to cylinder explosions, gas engine exhausts, acid, alkali, ammonia, super-heated steam or any other active agent. TENAX requires no following up. It is **permanent.** Pack with TENAX and forget the joint forever.

You Need *TENAX* Right Now

Right now—when production is curtailed, when shop work is pressing, when costs are so high, you need TENAX. Let TENAX increase the efficiency of your own shop. Use "the Old Standby" —the reliable general purpose sheet. Preferred by expert engineers and bought by the name "TENAX" for twenty years.

Reasonable in Price

There is hardly a limit to the price men will pay for absolute reliability, **yet TENAX is reasonable.** It is surprisingly economical. Thousands of shops use it every day. Get TENAX, the Original Blue Sheet. Let it help you reduce costs.

Write In Now!

Get Prices

Ask your jobber for details, but if he cannot supply you now, send us his name, using the coupon. Let us quote you prices. TENAX comes in sheets 50x50 inches, 1/32 to 1/8 inch thickness, inclusive. Made also in 1/64 inch thickness, black graphited sheet only. We die cut gaskets to any shape on order—for quotations in this work send blue prints or templates.

Get our prices. Examine the small sample we will send at our expense—or order a few sheets of TENAX now for your trial.

Jobbers: If you haven't already arranged to handle TENAX for your trade, write us NOW! Help them enjoy the saving and convenience of this wonderful sheet.

Advance Packing & Supply Co.

58 East Lake Street, Chicago, Ill.

Pacific Coast Representatives ALLIED INDUSTRIES, INC.
282 Minna St., San Francisco, Calif.; 340 Azusa St., Los Angeles, Calif.; 1252 First Ave. So., Seattle, Wash.

Advance Packing & Supply Co.,
58 East Lake St.,
Chicago, Ill.

Gentlemen—Please send us prices, samples and description of TENAX Compressed Asbestos Sheet Packing.

Name.....
Address.....
City.....
Am rated as Dealer.....**Jobber**.....
My Jobber is.....
Address.....
(Please fill this in.)

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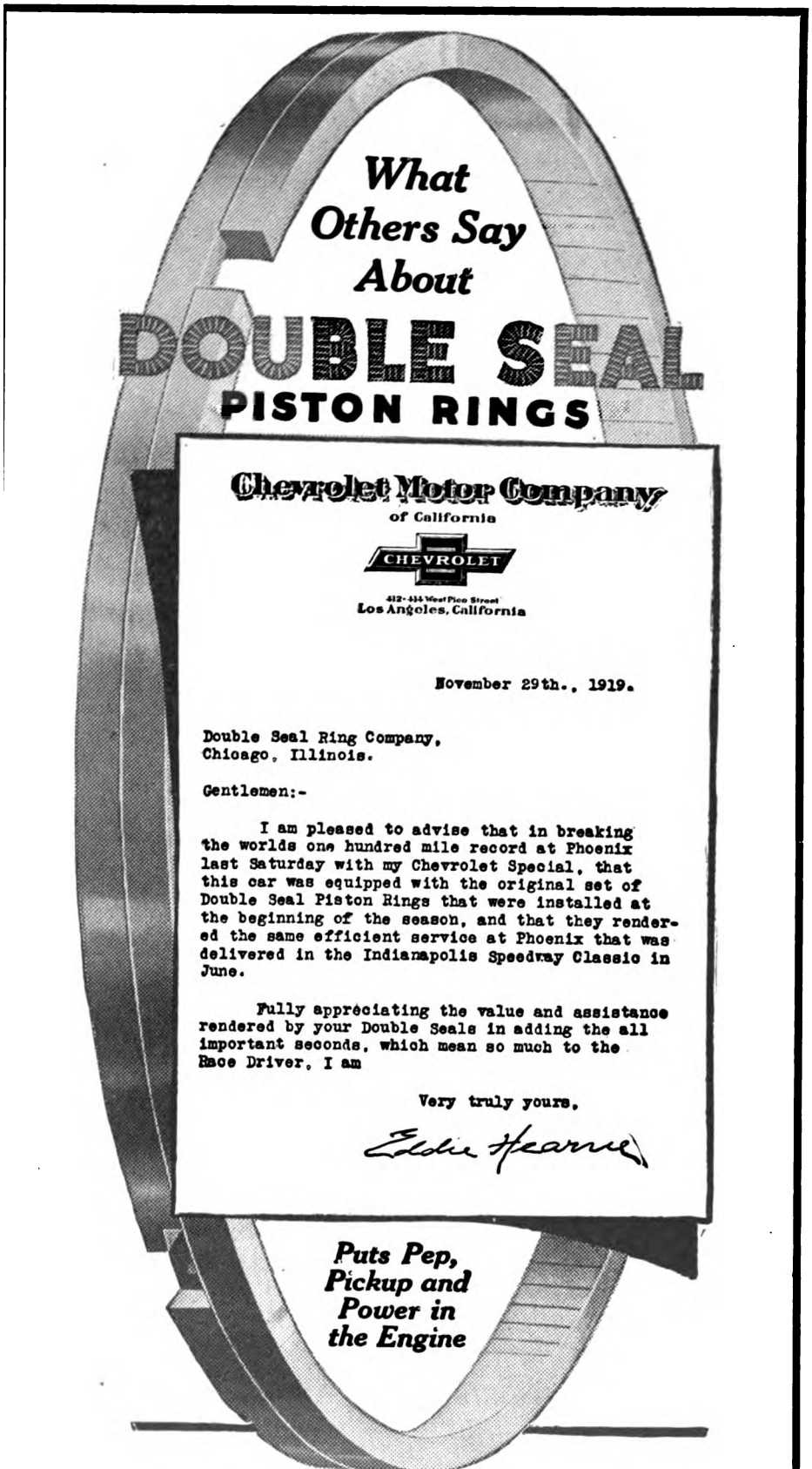

DOUBLE SEAL RING COMPANY

General Sales Office: 1517 Michigan Ave., Chicago, Ill.

WESTERN BRANCHES:

Denver, Colo.—415 Grand River Ave. Sacramento, Cal.—1016 J St.
Fresno, Cal.—1922 Tuolumne. San Francisco, Cal.—1124 Polk St.
Los Angeles, Cal.—603 W. Pico St. Seattle, Wash.—1213 Pine St.
Portland, Ore.—413½ Burnside St. Stockton, Cal.—106 N. California St.

Other Branches in all Large Cities.

The Rochester Motors Corp.

Large production of highest quality automobile engines is the plan of Rochester Motors Corp., Rochester, N. Y., by a syndicate which acquired the Rochester Motors Co., and is headed by Symington, Hoffman & Co., of Baltimore and New York. The new company will complete contracts made by the old company for producing the Rochester-Duesenberg 4-cylinder motor. The large factory increase, started last autumn, will be completed quickly and new machinery, ready, will be installed. No new business can be taken this year, however. Soon a New York office will be opened, to handle sales and advertising.

The corporation management will be: President, Donald Symington, head of several large successful manufacturing organizations; vice-president in charge of production, Charles F. Morley, head of Morley Machinery Corp. and formerly in charge of manufacturing for Symington Machine Corp., forgings manufacturer, Rochester and Chicago; vice-president in charge of engineering, Fred C. Kimmel, formerly president Rochester Motors Co., with large experience in developing marine, airplane and automobile motors; vice-president in charge of sales and advertising, Nicholas G. Rost, formerly general sales manager, Duesenberg Motors Corp.; treasurer, Edward F. Davison, formerly treasurer Rochester Motors Co.

* * *

Durston Gear Corp. Election.

At the annual stockholders' meeting of the Durston Gear Corp., Syracuse, N. Y., R. M. Bean, sales manager, and A. C. Bryan, factory manager, were elected directors and vice-presidents. Both have been with the corporation since 1913 and the business has grown tenfold since then. In the past ten months the plant has doubled capacity and, it is expected, soon will be one of the largest makers of transmissions for passenger cars and trucks. The company is the outgrowth of the Lefever Arms Co. The gun business was sold to the Ithaca Gun Works in 1916. The president of the Durston Corp. is A. H. Durston; first vice-president, M. H. Durston; secretary and treasurer, J. F. Durston. They were the sole owners of the old Lefever company. The plant, operating 24 hours daily, employs 400 men and will use 600 soon. A new model transmission recently was brought out, embodying the latest ideas and design.

* * *

Extension Plans of Jacquet.

President Alfred J. Jackson, of the Jacquet Motors Corp. of America, Belding, Mich., has bought for the company a large plant formerly used for ammunition making in that city; also a 25-acre factory site west of Belding, on the Pere Marquette railway, adjoining the Grand Trunk. There he will build a large modern factory late this year.

We have with us the stage road hog.

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ELECTRO-LOK

It's Wonderful

READ ON

Every Electrical Pulsation

AND ACTION OF

Each Cylinder

RIGHT BEFORE

YOUR EYES

WITHOUT LEAVING THE WHEEL.

You Know

WHEREIN LIES THE TROUBLE.

Full Motor Action

Operating on Dash with Watchlike

Accurate Precision

Note Following:

A POSITIVE DEFI TO THIEVES

EACH CYLINDER BEING ELECTRICALLY LOCKED.

Call or Write for Detailed Information.

ELECTRIC MOTOR LOCK CO.

Manufacturers

1216 S. Figueroa St., Los Angeles, Cal.

Phone 19799

Desert to Mountain Peak — Ensign Carburetor — With no Mechanical Adjustments

"THE discovery and application of the principle of the Ensign Carburetor ranks with that of the wireless telegraph and telephone."

A Strong Statement Backed by Performance.

Ensign Carburetors

Are Made For

Automobiles
Trucks
Tractors
Marine and
Stationary Work
to Handle Present Grades of Gasoline

THE

Ensign Fuel Converter

Is True to Name---It "Converts"

Kerosene

into a fixed **Gas** before entering manifold

For Heavy Duty Use

Catalogs and Information Upon Request

ENSIGN CARBURETOR CO.

Makers of Carburetors for All Internal Combustion Engines

Factory and General Offices:

217 E. 17th Street, LOS ANGELES

L. E. PENNIMAN
605 Van Ness Ave., San Francisco

F. A. STEFFEN CO.
1606 Broadway, Seattle

Desert to Mountain Peak — Ensign Carburetor — With no Mechanical Adjustments

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New Things in the Accessories Field

LARKINS SLIDING WINDOW TOP.

A sliding window top, declared to be absolutely rattle-proof, has been patented by Larkins & Co., of San Francisco, the oldest firm of its kind in the city by the Golden Gate.

The system, of which August Pape is the inventor, is to raise and lower the entire track upon which the windows slide. When the track is raised by a small lever the window slide easily to any position desired. Releasing the lever lowers the track and the windows are automatically clamped against the body of the car.

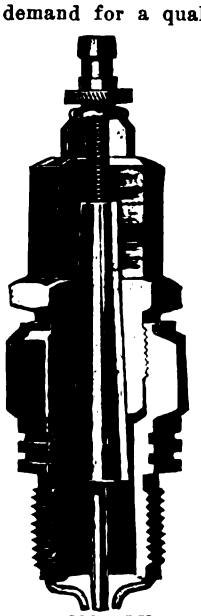
The windows can be stopped and held in any position—partly open or open all the way.

The equipment has an added feature. While it is to be used extensively in stationary tops it can also be installed in the regular touring car "one-man" top at less than one-half the cost of the stationary top—a feature which will put sliding windows within the reach of thousands of car owners unable to afford the more expensive top.

Larkins & Co. have been in business in San Francisco 55 years, first as high grade carriage builders, more recently as automobile custom body builders. Enormous business expansion has made larger working space necessary and Larkins & Co. will open a branch daylight factory about April 1, adding more than 43,000 square feet to their present large quarters and giving them the largest automobile establishment of the kind in California.

NEW FORD MICA SPARK PLUG.

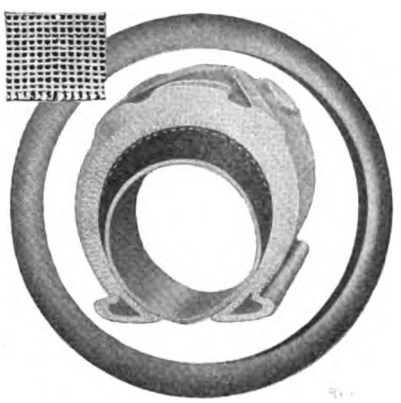
The Ford Mica Co., Inc., 24 Christopher St., New York City, is marketing a new all-mica-insulated spark plug, to meet the demand for a quality plug that is cleanable, leaf proof, pre-ignition proof, practically sootless, dependable and durable. It is practically hand made. Each is assembled and set by hand and individually tested. The mica is the best obtainable—ruby Brazilian—to insure insulation under all conditions. Mica does not break, chip or leak. The mica core insulation is extra thick, covering the central electrode, which, as shown in the cut, is conical where it enters the plug. The effect of its compression insertion is leak-proofness. The plug has only two parts. It is easily taken apart with a set of ordinary wrenches to clean. The thick mica core insulation may be scraped if need be to remove carbon. The plug has an unusually large chamber, in which considerable oil or soot must accumulate before operation is affected. The insulation at the top is of mica discs, fitting tightly to the core and compressed until practically solid. Knurls and large radiating surface cause even and rapid radiation, insuring cool operation and preventing pre-ignition troubles. The plug is made for service where a quality heavy duty or lasting plug is desired. The retail price is $2 except for the Ford Special.



MOSTLY HANDMADE.

"TIRE IN-SOLE" PREVENTS PUNCTURES.

C. E. Hart, president of the Tire In-Sole Mfg. Co., Findlay, O., is sponsor for the sub-title "Mile Multiplier," for the new puncture proof device named Tire In-Sole. The expense of repairs being greatly lessened can also be figured as extra mileage. A novel feature is the wide woven, high-tensile-strength fabric shock-stop breaker strip, which Mr. Hart compares with reinforcement in concrete construction. It not only gives the necessary support but, being wide woven and rubber-impregnated, it supplies millions of little individual cushions that increase resiliency.



TIRE IN-SOLE AND NEW BREAKER STRIP.

Tire In-Soles are crescent shaped, arched at the center and tapered to feather edges. They are made over standard wire cones so as to fit perfectly between casing and tube. It is said tires used 10,000 to 15,000 miles with the device show no marks of its use. However, the device outlasts several tires, though it protects them from interior inflation pressure, the pounding of the road, and sharp objects. It compels a tire to travel on the peak of its drown or tread, thus exposing less tire surface to the road and its troubles, as well as making for more riding comfort and easier steering.

ENSIGN FUEL CONVERTER.

The Ensign Fuel Converter, made by the Ensign Carburetor Co., Los Angeles, operates with any water-white fuel having a dry boiling point of 600 degrees. It is designed for satisfactory operation with wide ranges of atmospheric temperature and load without the application of hot air, as it generates and controls its own heat. It combines carburetor or metering devices, producing perfect ratio of fuel and air; a gas producer which converts part of the fuel into a hot, fixed gas; and a temperature regulator in conjunction with a starting system. The company's demonstrating car has run 27,000 miles without carbonizing. The company's Bulletin No. 1 tells all about the idea, which is growing rapidly in favor not only for wheeled motor vehicles but for marine use, 1,500 Southern California fishing boats being equipped with it. Recently a large contract was made in Chicago.

The company now has 60 employes. Its present brick building is 60x160, and it will erect an additional two-story brick building, 45x100.

CATERING TO TIP-TOP TRADE.

The Trinity Auto Top Co., 511-515 West Ninth St., Los Angeles, is making an enviable record among the most exacting customers, notably those in the motion picture world, desiring the best in top and body building, a line of work for which Los Angeles is becoming famous. The Trinity plant itself is a luxurious commodious tile structure, and A. G. Lind, manager, is an enthusiast for results having quality and "pep." In 1917 he entered the United States aviation service. He was in the experimental flying department until three months after the armistice. As lieutenant he made his first altitude record, 26,000 feet, at the Wilbur Wright field with Captain Patterson, who afterward was killed during a machine gun experiment at a great altitude. Before coming to California Mr. Lind was assistant manager of the Congo Tire & Rubber Co., Cincinnati.

OLDFIELD EXPANDS HIS LINE.

OLDFIELD PNEUMATIC TRUCK TIRE.

President Barney Oldfield, of the Oldfield Tire Co., Cleveland, O., announces it soon will supply distributors with a complete line of cord tires for commercial cars. The Oldfield Giant Cord, which passed all tests months ago, only recently was released for production owing to the demand for passenger car tires, like which it is in detail of design; the cords being of multiple type. Tread is the familiar arrowhead pattern. Tread material is also zinc-tempered —a factor for toughness, developed by President Oldfield's racing experience.

If in doubt, send the boy to an agricultural college and feel safe, as well as like a benefactor.

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KOZY WINGS *WIND DEFLECTORS*

Dealers: Write for Prices with Our Exclusive Contracts

Built and Designed to Impart

COMFORT, CLASS and CONVENIENCE

NOT ONLY THE

DOMINATING FEATURE

BUT A

REAL NECESSITY SATISFIED

Being Warm in Winter and Cool In Summer

Instantly and Conveniently Adjusted To Any Angle AS WINDSHIELD or VENTILATOR

COMPLETE THAT CAR WITH A SET OF

KOZY WINGS

Will Not Rattle—Fully Guaranteed

Authorized Agent Hartford Tonneau Windshield

COZY-WINGS AUTO SUPPLY CO., MFRS.

A. S. LOCKWOOD, Manager.

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CERTAIN SATISFACTION

Assured the Most Exacting Trade

A Representative

Top and Body Building

INSTITUTION

Painting :: Seat Covering :: Metal Work

No Apprentices We Employ Experts Only in our Various Departments

Call or Write for Our Figures Today

TRINITY AUTO TOP COMPANY

Designers and Builders For Those Who Know

511-515 West Ninth St., Phone 63624 Los Angeles, Cal.

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CHAIN-O'-SPARK SUPER PLUG.

The outstanding feature of a new plug, developed by the Chain-O'-Spark Corp., Minneapolis, is its double circular gap, which delivers two independent sparks inside the firing chamber. This gives the plug many of the excellencies of the double ignition system in which two separate plugs fire simultaneously in the cylinder. However, the chief feature that the manufacturers claim for the plug is that it runs clean. These two gaps in series step up the voltage, thereby intensifying the spark and in event one of the gaps becomes fouled the other still remains active and soon burns away the obstruction. The double spark insures a better ignition which increases both the power and flexibility of the motor, starts more quickly and smoothly in cold weather and on low grade of fuel, and eliminates much of the carbon and the engine troubles that grow out of it. The plug is equipped with a non-porcelain stone core of unusual tensile strength and electric and heat resistance and is sold at $1.35 each retail.

IT "RUNS CLEAN."

2-WAY LAMP O. K. IN PENNSYLVANIA.

Frank B. Ansted, president of the United States Automotive Corp. which holds all patents on the 2-Way lamp (standard on all new series B Lexington cars and usable by all other makes), has been notified that the lamp meets the Pennsylvania law, based on the New York and California anti-glare laws, and the most drastic in the country. The 2-Way passed the New York requirements also.

Pensylvania requires that not more than 32 candlepower shall be used, and that in no lamp over 4 candlepower shall dazzling rays 75 feet or farther ahead be more than 42 inches above the level on which the car stands, but must illuminate 200 feet ahead when car is moving. The 2-Way, in tilted-down position, meets every detail of this law, and, it is claimed, will or can be made to meet all state laws, give full driving light always, yet insure safety of others. Its down-tilting is commended by the Society of Illuminating Engineers.

The movable reflector is semi-automatic, controlled by vacuum from the instrument board. For normal driving, the tilted-down position is used, and is entirely satisfactory.

SOPER RETREADING MOLDS.

The Soper Vulcanizer Mfg. Co., 110 E. Eleventh St., Los Angeles, manufacturing tire shop equipment, has issued its 1920 catalog, illustrating and describing the Soper retreading and sectional molds. The book shows in pictures the remarkable way in which tattered treads are replaced by spick and span new ones. It tells how, by using the Soper mold, one avoids stretched beads, which cause tires to blow off of rims; shrunken beads, which make tires hard to put on rims; blown out beads, due to drying up of the friction cloth when the tire is put in the kettle; separation and general deterioration of the fabric, due to exposure to live steam; this and much other information of great interest to live repair men.

REAM UNIVERSAL JOINTS AND PROPELLER SHAFTS FOR CARS AND TRUCKS.

Abuse of a good differential, but many times the no more than normal use of a poor differential, are the reasons why so many cars and trucks are laid up in garages with rear axle troubles. Stripping of gears, shearing of keys, loosening of ring gear bolts, damage to the differential case, breaking of the rear axle and pinion shafts and damaged and worn bearings may, more times than is generally known, be traced to inefficient differential design.

The Ream Ball and Socket and Roller Bearing Universal Joint positively eliminates the constant whip, oscillation and vibration which brings so many differentials to grief, according to the makers, the R-S Mfg. Co., Waldheim Bldg., Kansas City, Mo.

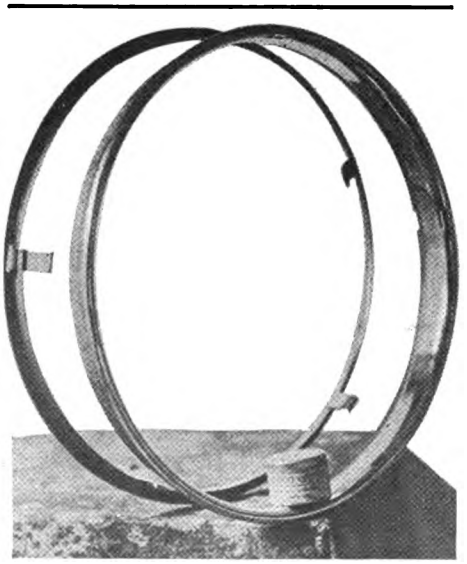
The claims made for the Ream Universal Joints and Propeller Shafts are increased power, back-lash being eliminated; no alignment trouble, the universal joint principle preventing it; no lost motion; and minimum friction.

Paul R. Fenner, 324 Monadnock Bldg., San Francisco, Cal., is Pacific Coast representative for Ream Universal Joints and Propeller Shafts.

TURBIN AUTO WASHER PROSPERS.

The Turbin Auto Washer Co., Three Rivers, Mich., organized some time ago to make and market brushes for washing automobiles, is having much success, is considerably behind orders, and expects to enlarge its quarters soon.

The American Automobile Association is preparing a manual on camping.

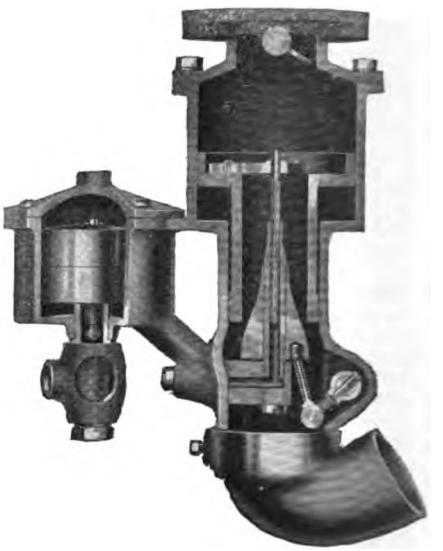


TWO-PIECE RIM OPPORTUNITY.

Karl B. Paulus says his two-piece rim enables removal and replacing of tires without tools; that it can be manufactured to sell for 50 cents more than ordinary rims; that it has proved dependability under hard tests. He incorporated for $150,000 in Colorado, but is now at 1223 South Main St., Los Angeles, and would like to have Los Angeles trade men become officials and directors of his company. He states he has refused offers to sell outright.

OPERATING BOOTY CARBURETOR.

The Booty carburetor, manufactured by the Booty Carburetor & Mfg. Co., Chicago, is said to give phenomenal flexibility in



THE BOOTY CARBURETOR.

accelerating and idling and to be unaffected by changes and altitude. It has one moving part. Its principle is original and simple. With throttle partially open the piston raises, creating an opening around a cone, for the volume of air required by opening of throttle and the shallow grooves in fuel motoring pin. These grooves, shallow at top, gradually deepen upward, for proper proportion of air and fuel at all speeds and loads. The carburetor differs from others in velocity through mixing chamber being constant at all motor speeds, not varying from idling to full load condition. This is assured by the movable venturi represented by the bottom of the piston and contour of the cone. The floating piston causes constant low vacuum, about 1 inch mercury column. Thus, very high volumetric efficiency. Water in gasoline line is no detriment. Water may be poured into the float chamber while engine is running without interfering with engine operation. This is the result of low internal depression, permitting the motoring pin to have large orifices through which water is sucked quickly. The same self scouring principle applies to dust, dirt, etc., which would hinder a carburetor. Proportion of air and gas for perfect carburetion is determined by the shape of the cone and depth of the tapered grooves in motoring pin, which are very shallow with the piston in idling position but deeper as pin is raised by piston, when opening around venturi cone increases. The only adjustment is on the instrument board or steering post, at the driver's finger tips. This must not be confused with a primer or choke. It is positive mixture adjusting. It lifts the cone, causing the piston to raise away to maintain its constant vacuum, the piston at same time raising motoring pin, which increases fuel orifice depth, enriching mixture as required. Setting the cone produced any desired density of mixture throughout the carburetor's range. Raising the cone creates rich mixture for cold weather starting, instead of choking off air by butterfly valve in air intake. The Booty is claimed to give perfect results on all makes and types of motors, on passenger cars, trucks, tractors, planes, marine and stationary engines. All parts are standard and interchangeable.

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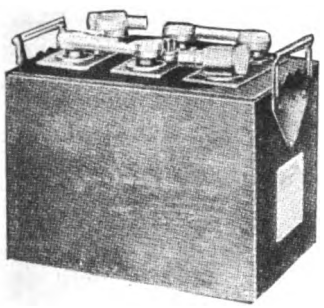
A ♥ THE ACE IN BATTERIES



THE
UNIVERSAL BATTERY

IN A FEW WORDS—
COMPLETE
COMPACT
COMPELLING

The
"UNIVERSAL"

The Aristocrat of the Battery World

Enters Western Field with
Los Angeles as the
California Distributing Point

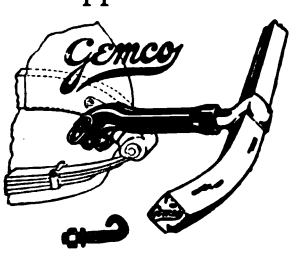
Car Owners—Investigate
Garages, etc. — Do Likewise and
Call or Write for our Decidedly Attractive Agency Proposition

STEWART BATTERY CO.
3038-40 S. Main St. Phone South 1763 Los Angeles

Gemco MILWAUKEE
TOPS IN AUTOMOBILE ACCESSORIES

Dressy Bumpers for New Cars

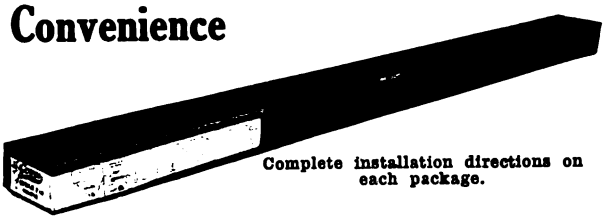
Gemco Bumpers, attached to both front and rear of a new car, will not only make it collision-proof, but will also enhance its trim, attractive appearance.



GEMCO FENDER PAN BUMPER.
For those who prefer enclosed springs. Attaches easily to front or rear of standard cars. Does not interfere with splash pans or fenders. Diamond or Channel Bar. Retail prices from $9.50 to $14.00.

GEMCO SPRING ARM BUMPER.
Combines the strength and resiliency of the Spring Bumper with the attractive lines of the Channel or Diamond Bar. Attaches at front or rear of most cars. Black or Nickel finish. Retail prices $9.50 to $15.00.

Each Carton Labeled for Your Convenience



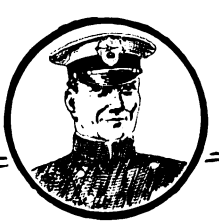
Complete installation directions on each package.

Every Gemco Carton comes to you distinctly marked and illustrated as to size, style and finish of bumper enclosed. You always know just what you have in stock. Careful packing insures safety in transit. Cannot be marred or scratched by handling.

There isn't a "hanger-on" in the Gemco line. Built for the automobile—not for the shelf. More Gemco bumpers are in use than any other make.

Write for the 1920 Gemco catalog, cross-indexed for every make of car—a handbook of the newest and most convenient auto supplies sold.

GEMCO MFG. COMPANY
725 So. Pierce St., Milwaukee, Wisconsin.



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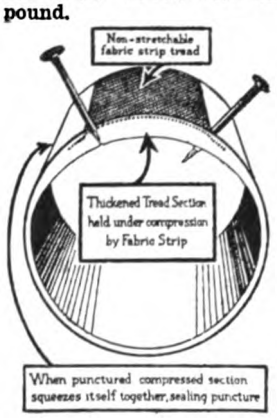
BONNER TUBES

Will Not Deflate

Here is a tube quite different from others, built on a positive scientific principle which ends the annoyance of flat tires. Filled with air only—**no liquid, no gum compound.**



The diagram shows a cross-section of an inflated BONNER TUBE. The crescent shaped tread is two and one-half times thicker than ordinary good tubes. This portion, when inflated, is held under compression by a strip of non-stretchable fabric embedded in the tread. When punctured, the compressed rubber grips the nail tightly and prevents air leakage. If the nail is withdrawn, the rubber "squeezes itself together," completely sealing the hole. This is the self-sealing secret of BONNER TUBES.

We guarantee BONNER TUBES not to deflate under tread punctures for a period of one year.

See it demonstrated at Space No. 142, Pacific Automobile Show.

WEST COAST RUBBER CORPORATION

Sole Coast Distributors for "BONNER AIR TUBES"
Main Offices: 301-302 Humboldt Bank Bldg. Telephone Sutter 6373
Retail Store and Service Station: 933 Post St.
SAN FRANCISCO, CAL.

Use Motor West

¶ Every Eastern automobile or accessory manufacturer can help his Pacific Coast representative increase his sales by a liberal use of the advertising columns of MOTOR WEST.

¶ Coast dealers and factory representatives should insist on the factory folks giving them the same advertising support in "The Motoring Authority of the Pacific Coast" as is accorded the Eastern and Middle Western dealers and representatives in the motor trade journals published in those sections. Otherwise the dealers and representatives here, who pay their proportionate share of the expense of advertising in the Eastern and Middle Western journals (and incidentally receiving very little benefit from it) are paying for something they do not get.

THINK IT OVER!

BONNER TUBES WILL NOT DEFLATE.

The great annoyance motorists have to contend with in driving is a punctured tire. For years inventors have striven to do away with this, more or less. with tire fillers and compounds. The Bonner tube, which is air filled only, achieves its invulnerability by a physical means, that is, through a unique method of construction. Bonner tubes are made over a curved steel mandrel. A stripe of non-stretchable fabric is embodied in the tread close to its inner surface, and the tread then built up extra thick by laminated process, layer upon layer, and then vulcanized altogether.

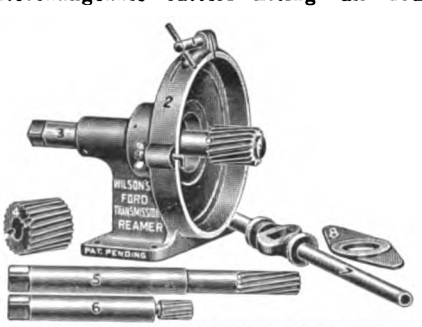
After the tube has been vulcanized, it is stripped back from the mandrel. Being turned inside out, the larger outside circumference of thickened rubber thus becomes the inside circumference. When the tube is inflated, the tread, being held by the fabric, cannot expand, and is automatically compressed to a point where it will immediately close a puncture with loss of air pressure.

The efficiency of the Bonner tube lies in its scientific principle. The manufacturers guarantee it not to deflate under any tread road puncture, for one year. The West Coast Rubber Corp., Humboldt Bank Building, San Francisco, is the sole Coast distributor with branches and selling agencies in all of the principal cities and towns on the Coast.

WILSON'S TOOLS FOR FORD SHOPS.

The fix that K. R. Wilson, 10-16 Lock St., Buffalo, N. Y., is in is this: Ford service stations must be well equipped. Wilson's special tools for Ford repair shops, aimed to save 75 per cent of labor cost, rate so high they are handled by the Fairbanks Co., New York, and the principal jobbers. His orders through these, and following the national shows, have nearly swamped him. His own grasp of the meaning of service is proved by his suggestive list of tools for a two-man shop, totaling $302.85.

One of Wilson's strong sellers is his $72 transmission bushing reaming machine, claimed to be the only one by which a perfect job is possible. It comprises a special jig which holds the three transmission drums or triple gears at a right angle and in perfect alignment with reamers while being reamed, and a set of specially designed reamers having one size arbor and interchangeable cutters fitting all four



WILSON'S TRANSMISSION REAMER.

sizes of bushings. These reamers do all their cutting on the point, the body of the reamer serving only to scrape away the fin edge and deliver a highly polished bearing. It is stated that transmission drums reamed by this method will revolve absolutely true, without wabble or noise, and make for the repairman a real profit as well as a satisfied customer.

As Christy Walsh in Maxwell-Chalmers "Punch" says, it's what you do between 5 and 8, not 8 and 5, that kills.

LOCATES MOTOR TROUBLES.

Before your eyes, as you drive, the speedometer, oil gauge, etc., keep you well informed as to their functions. However, suddenly a cylinder misses. Which one? Climbing out and under to find out is no longer necessary as to the climbing under, but you must still get out, and there may be mud, and the hunt is but begun.

What the speedometer, etc., do in their way, a remarkably perfected compact little electrical box does as to the motor. In a width of five inches it shows, through round glass panes, a spark for every cylinder. The jump of each spark is 5-1000ths of an inch, so that the current, passing through this transformer, produces a very hot spark in the cylinder despite the 25-1000ths inch jump there. This means more power, less fuel, clean cylinders—a car run 27,000 miles with the device shows no carbon. The current is grounded in the instrument itself—no shocks, no ground wiring necessary. If a cylinder misses, the spark in front of you shows which one—much time and labor saved. When you park the car, turn a Yale key in the plate of the box—every cylinder locked, yet the car can be rolled.

The device seems to supply a fundamental need for passenger cars, trucks, tractors, airplanes and motor boats. It is called the Electro-Lok and Spark Transformer. Its inventor is Jack H. Rudorf, of the Electric Lock Co., 1216 South Figueroa St., Los Angeles. Mr. Rudorf was chief engineer for the Holt tractor people, for a great land development company and for one of the leading sugar companies. His partner, G. B. Caldwell, was 27 years with the American Beet Sugar Co. at Chino. He is managing the business end.

The device is being exhibited at the San Francisco automotive show.

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DRAKE LOCK-NUTS

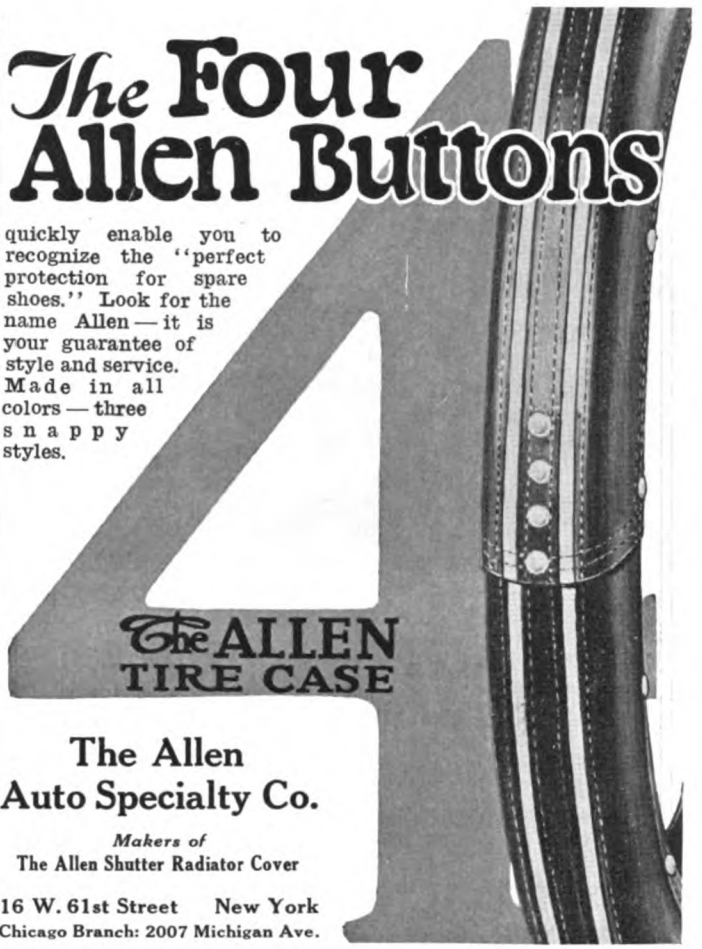
TRADE MARK REGISTERED U.S. PAT. OFF.

NEVER JAR LOOSE

Standard equipment covering vital points by careful manufacturers.
Try them on your upkeep.
Specify on all your new equipment—
WRITE FOR SAMPLE
DRAKE LOCK-NUT CO.
Cleveland (*Plants*) San Francisco

The Four Allen Buttons

quickly enable you to recognize the "perfect protection for spare shoes." Look for the name Allen — it is your guarantee of style and service. Made in all colors — three snappy styles.



The ALLEN TIRE CASE

The Allen Auto Specialty Co.

Makers of
The Allen Shutter Radiator Cover

16 W. 61st Street New York
Chicago Branch: 2007 Michigan Ave.

new-

Here it is—the new Blowout Boot. Different—practical—a friend in need.

Its surface is thickly studded with tiny quills. When the Boot is placed in the tire over the blowout and the tire inflated, these quills imbed themselves into the tire.

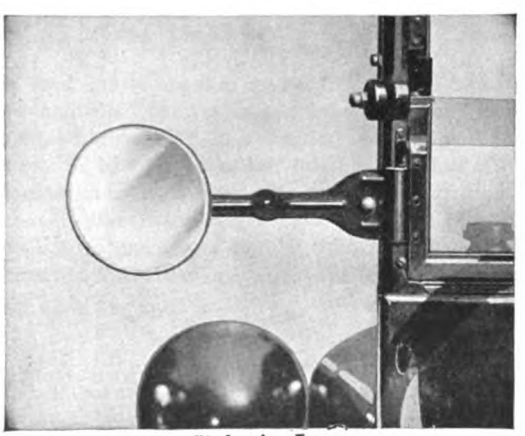
Thus the Boot makes a permanent repair. It can't slip or chafe the tube. Let your dealer tell you more about Porcupines—he sells them.

Your Dealer Sells Them

AUTO BOOT MFG. CO. OF CALIF.,
LOS ANGELES, CALIF.

PORCUPINE BLOW-OUT BOOT

Hindview Auto Mirrors



Style A—Long

The "Hindview" Auto Mirror prevents accidents by enabling the driver to keep an eye on the rear traffic without losing sight of the road ahead. The Ball Joint allows immediate adjustment to any desired angle without the use of any tool.

Write for descriptive folder No. 19 showing complete line.

A. E. MOHRIG, 340 Phelan Bldg., San Francisco, Cal.
Pacific Coast Representative

KALES STAMPING COMPANY
444 West Lafayette Blvd. DETROIT, MICH.

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THE TIRE FILLER That Has Made Good

Trouble-Proof Tires With Ample Resiliency

is a combination that has long been sought by the motoring public. Some tire fillers failed to stand up under long service—most of them lacked the essential resiliency. But these two vital qualities were at last combined in

NATIONAL RUBBER TIRE FILLER

It has brought joy and satisfaction to tens of thousands of car owners. It has done away with punctures and blow-outs, vulcanizing, patching, and saved many a long wait on the road-side. Users get 10,000 to 20,000 miles out of every tire. Besides, National Rubber Tire Filler has a wonderful resiliency. It takes the place of the air and inner tube, rides as easy and makes the car a real pleasure.

National Rubber Tire Filler is made of the best grade of rubber, cut in small pieces, treated, moulded and vulcanized by our special process. The result is a compound that is light, strong and resilient that will stand all kinds of hard, rough service. We have been manufacturing and selling it for more than eight years, selling more than 300,000 sets, shipping it into every one of the states in the United States and a number of foreign countries. Let us tell you more about it.

DEALERS

National Rubber Tire Filler sells because it has made good. It combines comfort with economy of tire upkeep. Your customers are going to want it. We have a fine proposition for you. Write us today.

National Rubber Filler Co.

224 College St. MIDLOTHIAN, TEXAS

Western Trade Notes

Phoenix, Ariz.—The Willys-Knight, Moon, Allen and Oakland have appeared in new models in this territory recently. The Southern Motor Co., Moon and Allen cars, has appointed Charles Pope sales manager; branches will be opened at Tucson, Nogales and Bisbee; the Phoenix firm is one unit in one of the largest car distributing organizations on the Coast, which operates other branches under different names at Los Angeles, San Francisco, Portland, Pentleton and Seattle. Smith-Vincent Co. received a carload of Reo cars recently and the Oakland-Arizona Sales Co. several carloads in the past few weeks. Babbitt Brothers, of Tucson, have secured the Buick distributing franchise from the Southern Arizona Motor Co. V. H. Day, general sales manager General Motor Truck Co., was a recent visitor in Phoenix.

Napa, Cal.—H. P. Huddleston, former service manager for the H. O. Harrison Motor Co., Dodge dealer in San Francisco, has taken the Dodge agency here.

Richmond, Cal.—Perry M. Graves has taken the Contra Costa county agency for Oldsmobile cars with headquarters here.

San Bernardino, Cal.—Albert Knight and R. A. Blair have bought the Byers Garage.

Hollister, Cal.—William Arnold and J. W. Meredith have bought the Manning & Sons Repair Co. and will operate it as Arnold & Meredith.—The W. A. Marquis Auto Repair Shop has been bought by George Carlson and the Clark Brothers.

Santa Ana, Cal.—Ben H. Warner has bought the tire and vulcanizing establishment of C. A. Davis.

San Bernardino, Cal.—Winkler & Smith will open a garage and general repair shop at 518 Court St.

Tacoma, Wash.—The Stewart Products Service Station, of Seattle, has opened a branch here at 717 Tacoma Ave.

Ballard, Wash.—The W. S. Dulmage Co., of Seattle, Chevrolet distributor, has opened a branch here with L. J. Raef as manager.

Douglas, Ariz.—McArthur Brothers have bought property at F Ave. and Fifteenth St. and will build a modern $20,000 garage.

Delta, Utah—C. Rose has bought the Walker & Jensen Garage and now operates it as the Rose Auto Co.

Price, Utah—Representing the biggest transaction in this locality so far this year, the Utah-Idaho Motor Co. has bought the garage and stock of the Redd Culp Motor Co. on North Eighth for $30,000, in which they will soon locate as their permanent home.

Buhl, Ida.—A. M. Hendricks has bought the interest of J. F. Price in Price & Walter, operating the Broadway Garage, the name of which will be changed to Walter & Hendricks.

Ventura, Cal.—The Morgan Motor Co., with its chief office in Imperial, has been incorporated.

Woodland, Cal.—The Pacific Motor Sales Co., of Sacramento, has made overtures to the Yolo county board of trade for the establishment of an assembling plant here on a ten-acre site with a gas supply.

Pasadena, Cal.—Ralph Hamlin, Inc., of Los Angeles, Franklin dealer, will erect a new sales branch building here on ground bought on W. Colorado St.; Claude Eaton is manager of the Pasadena branch.

Caldwell, Ida.—Ward Daggett and Clyde Wooley have bought the Canyon Auto Co. and will operate a general repair service and accessory sales business under the firm title of Daggett & Woolley.

San Diego, Cal.—Four new car agencies have recently appeared in the local field. Freiden & Croghan have added the Peerless to their Hudson, Essex and Maxwell lines; the Los Angeles-built Leach car has been taken by the Ashton-Lines Motor Co.; Wilson S. Sith & Co. now represent the Holmes air-cooled car; and the Allen is distributed now by the Automotive Sales Co. Prompt deliveries are promised by the Lexington, Auburn and Nash dealers. The Oldfield tire distributing agency for San Diego and Imperial counties has been secured by Philley, Gill & Hunter, 1214 Fourth St. The Coburn Machine Co. has moved to a new location at Second and G Sts., and will give cylinder grinding work a special share of their attention.

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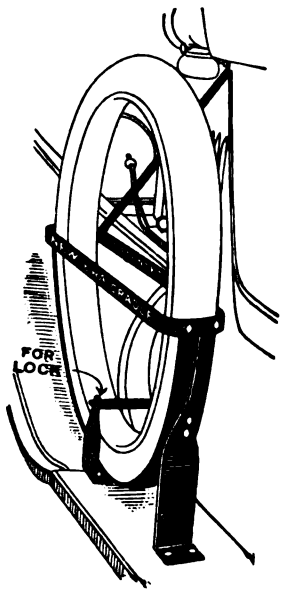
New Era Cradle



The Tire Carrier That Takes Best Care of Your Tires

This popular priced Tire Carrier takes 30x3½ inch tires, plain or non-skid, and rigidly fastens to the side or rear of all Ford models—will not rattle—and holds the tire snugly in place.

It takes but a moment to unfasten the NEW ERA Cradle Lock and lift out the tire.

No. 208—Single-Side $4.50
No. 327—Double-Side ... 6.50
No. 326—Double-Rear ... 7.50
No. 207—Single-Rear 5.50

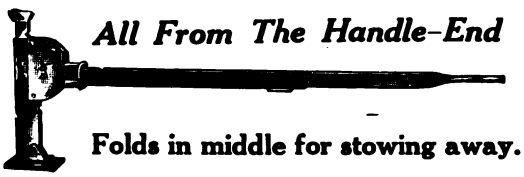
New Era Spring & Specialty Company

72 Cottage Grove Ave. - GRAND RAPIDS, MICH.

Lane's H.-C. Auto Jack

Is Placed on Handle and Pushed Under Car

PLACED OPERATED REVERSED WITHDRAWN



All From The Handle-End

Folds in middle for stowing away.

Thousands in use.

Absolutely Guaranteed. Write for Prices.

Pacific Coast Representative

JOHN T. ROWNTREE, Inc.

SAN FRANCISCO 979 Monadnock Bldg.
LOS ANGELES 601 Higgins Bldg.
SEATTLE 503 Maynard Bldg.

Manufactured by

LANE BROS. CO., Poughkeepsie, New York
Mansion Street

DE LUXE WINDSHIELD

"THE LAST WORD IN CAR COMFORT"

Protects Occupants from Wind and Dust and Adds Distinction to the Car.
De Luxe Has Extra Adjustment for Setting Shields to Create a Breeze in Hot Weather and Ventilate Car.
Only Shield Clearing Side Curtains.
Cast brass parts (non-rusting), finest nickel and black enamel, best windshield glass, two adjustments instead of one, designs to fit your car. BEST. NOT CHEAPEST. Installed in 5 minutes

PRICE $25.00

For Sale at All Dealers and Supply Houses.

DE LUXE WINDSHIELD CO.

341 LARKIN ST. MFRS. SAN FRANCISCO, CAL.

Mail orders promptly filled.

A Revelation

THE

Swing-Spout Oiler

IT EXPEDIATES SERVICE

FOUR SIZES:

Pint $2.25
Quart $2.50
½ Gal. $3.00
Gallon $3.50

Eliminates Spilling of Oil and Soiled Clothing

Greatly Adding to the Joy of Motoring

Glazed Copper—Durable—Practical

For Sale by All Jobbers

SWING-SPOUT MEASURE CO.

MANUFACTURERS

404 N. Los Angeles St. Phone 632-91 Los Angeles, Cal.

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SIOUX
Trade Mark Reg. U.S. Pat. Office

Sioux Tools have set up a new standard of efficiency in

Removing Bushings, Re-Facing, Re-Seating, Grinding

any and all valves

There is only one best—the "Sioux"

ALBERTSON & CO. Manufacturers, SIOUX CITY, IA.

PBB

BALL BEARINGS REGROUND

Large stock of all standard sizes on hand for immediate exchange.

Special Bearings Made to Order.
Factory Distributors for New
FAFNIR BALL BEARINGS
BOWER ROLLER BEARINGS

PACIFIC BALL BEARING CO.

415 West Pico Street Los Angeles, Cal.

PARAB-O-LIGHT

"The Lens That's Right"

Tested and Approved in California.

The lens that conserves the energy from the storage battery by producing a perfect driving light when used with bulbs of 15 to 20 C. P.

Prices: $3.25 to $4.25 per pair.

THE J. D. FRENCH COMPANY
30-32 DAVIS STREET
PACIFIC COAST DISTRIBUTOR

THE ZORGER LENS COMPANY
CHAMPAIGN, ILL.

FOR SALE

Nine 3¼x5 and one 3½x5 Herschell-Spillman motors by manufacturer who has discontinued using this type of motor and gone into larger sizes. These motors are new and in first-class condition. Will sell at reasonable price.

Box B 27

MOTOR WEST

San Francisco, Cal.—The Highway Garage Co. has been formed here, $50,000 capital stock; the incorporators are J. A. Hatter, J. W. Suffecool and G. D. Perry.—A three-story automobile sales building will be built on Market St. near Van Ness Ave. and will house the Clydesdale Motor Truck Co.—The Spencer Auto Sales Co. has been authorized to issue 999 shares of capital stock to C. S. Mitchell and Carl F. Mau, taking over their business—S. A. Beck has been named general sales manager of the Hoover Spring Co.; he comes from Portland where he was long identified with the Seller Co.; the company recently occupied its new model factory at 201-29 Franklin St.—The McKevitt Auto Supply Co., 1332 Van Ness Ave., has been made local retail distributor for Lee tires.—George B. Wiseman has been appointed distributor for Fyrac spark plugs.—Thomas F. Minehan has opened at Eighth and Market Sts., as distributor for Lehigh tires.—The Frank A. Busse Co., Brunswick tire distributor, has added the agency for Harvey steel truck wheels.

Pomona, Cal.—The Auto Supply & Battery Shop, 227 S. Garey St., has been made exclusive sales and service agent for Prest-O-Lite batteries.

Owensmouth, Cal.—M. C. Walker has bought the Owensmouth Garage from C. F. Riddle.

Torrance, Cal.—J. M. Woodruff has sold the Ford Garage & Agency to Spears & Boyer.

San Fernando, Cal.—W. V. Scott, operating a branch garage at Van Nuys, has leased the Walker Garage here.

Santa Ana, Cal.—The Prest-O-Lite battery sales and service agency here has ben secured by Howland & Ruhnke.

Buhl, Ida.—Trask's Garage has been bought from W. Earl Trask by George B. Brazeau and E. J. Daly, who will continue the Hupmobile and Oldsmobile agencies and do a general accessory sales and storage business.

Wallace, Ida.—The Yellowstone Trail Garage Co. has opened here in its new garage, where it will handle the Dodge line.

Soda Springs, Ida.—George Harrison & Son have taken over the J. M. Horsley Garage, handling the Chevrolet car and operating it under their own name.

Provo, Utah—E. B. Parry has sold the Parry Auto & Machine Co. to W. F. Clegg, H. V. Davis and R. P. Greenwood.

Long Beach, Cal.—Two new car agencies here are for the Cole Aero Eight and the Pilot Six. The Motor Car Supply Co. has taken the Cole line; the Fisk-Myers Motor Co., the Pilot. The Cole four-passenger sport model is now on display and the agent expects soon to be well stocked with closed and open models. The Central Garage, Inc., sold five Velie cars retail in two weeks and expects a carload of models for immediate delivery by April 1. The new 1920 Oakland has been put on display by the Marshall-Robinson Co. James V. Hough, Oldsmobile and Chevrolet dealer, has moved to larger quarters at 230 E. Third St.

Hanford, Cal.—Joseph A. Lewis and Louis A. Armell are managing partners in the Kings County Motor Co., which will start in business at an early date in a fine new steel and concrete building to be erected at Seventh and Harris Sts.

Porterville, Cal.—One of the most modern shops in the state will be built for the Ulmer Machinery Co. on Gordon St.; it will cost $25,000.

Bakersfield, Cal.—E. A. Wheeler and Herb Baker have opened the Wheeler & Baker Garage, 2319-21 Chester Ave.

Visalia, Cal.—Cole Aero Eight cars and Sandow trucks will be represented here by J. F. Healey, head of the Tulare County Motor Sales Co.—A $50,000 garage will be erected for James Seabright; it will have two stories and be of concrete construction.

Stockton, Cal.—The business of the Auto Tire & Accessories Co. has been bought by C. L. Dickman.

Sacramento, Cal.—New agencies in this territory are for the Texan Four car, taken by the United Motor Sales Co. for the Sacramento Valley; the Leach car, built in Los Angeles, taken by the Brown Motor Sales Co.; and the addition by J. J. Jacobs of the Day-Elder truck line to his Studebaker agency. Prompt deliveries have been announced as possible on Elgin, Oakland, Oldsmobile, Apperson and Texan cars. The new National Sextet models recently reached the John F. Zak Motor Co. and the new 1920 Premier is now displayed by Renstrom & Thomas. Guy P. Louthian has unloaded a trainload of Oldsmobiles. The Smith-King Motor Co. has been formed with $50,000 capital; it handles Patriot trucks and will add a car and another truck line.

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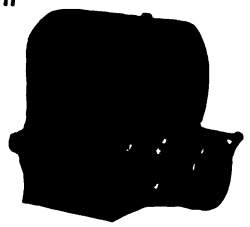
Its flaming hot spark completely fires any mixture, richest or leanest, even low grade fuels.
It's dependable under all conditions.



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Wayne Curb Pumps give you better profits because they are so well made that they last longer, serve better and are **always on the job** at the curb, for you and your trade. **Write for Bulletins 280MW. and 11MW.**

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BARNETT AUTO BODY CO.
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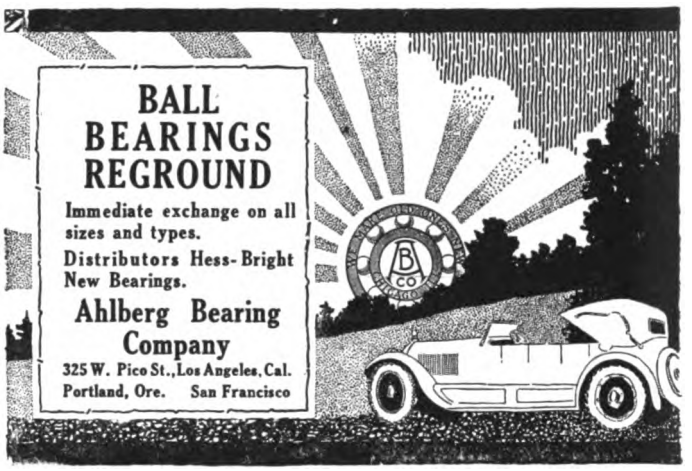

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Vacuum Carburetor

$7.50
F. O. B. Newburgh N. Y.

Model F, for Ford, Metz and Saxon Four, has shown marvelous gasoline economy and remarkable increase in power.

Perfect carburetion can be secured only through perfect mixing of gasoline and air in proper proportions. The Sunderman Carburetor not only produces such a mixture but breaks up the gasoline globules so finely that a MORE POWERFUL mixture is the result. Sunderman-equipped cars save from 30 to 50% in gasoline—increase mileage from 42 to 100%.

Order at Once—Splendid Dealer's Proposition.

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THE reason for the Winther supremacy in both sales and service is as simple as A,B,C. Development as a direct result of war-time conditions, Winther best met the needs of a nation at war and best meets the need of a nation in peace.

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OUR NEW AND COMMODIOUS BRICK STRUCTURE AFFORDS FIREPROOF STORAGE
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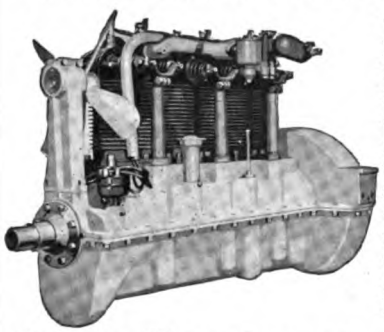

The Cameron Air Cooled Motor is the last word in engine refinement. Engine temperature is constant in efficiency, regardless of all conditions. Cars so equipped are freed from the inconstant and unsatisfactory water cooling system with its steam generating, freezing and leaking evils.

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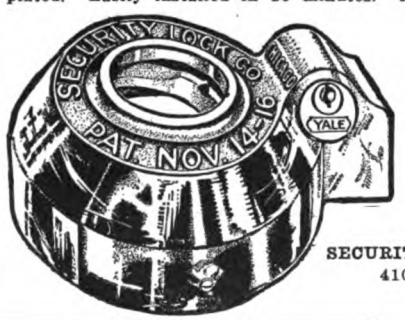
The original loose wheel lock for Fords. Approved by underwriters. Insurance reduced 15%. Made of solid brass. Nickel plated. Easily installed in 10 minutes. No drilling. No filing.



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SECURITY AUTO LOCK CO.
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MORELAND TRUCKS
All Morelands burn Distillate
They are reliable, rugged and powerfu transportation units
Moreland Motor Truck Co.
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BEST FOR THE WEST

Seattle, Wash.—The Colyear Motor Sales Co. has located in the new Collins Bldg.—The J. W. Rogers Motor Co., new state-wide Premier car dealer, has leased for five years the former quarters of the Great Western Motors Co. at Boylston Ave. and Pine St.—A two-story building, to cost between $12,000 and $15,000, will be erected for the Emery Tire & Rubber Co.—The Sewell Cushion Wheel Co., Northwest, has taken the Seattle and King County agency for Goodrich tires.—The Spreckels Savage Tire Co., formerly located at 1510 Broadway, has moved to 918 E. Pike St.

The Dalles, Ore.—The Fuller Garage has been sold by E. W. Fuller to John Naylor.

Labanon, Ore.—The Kirkpatrick Motor Co. has bought ground here whereon to build a fine new reinforced concrete garage, 132x160 feet, to house their Ford car and Oliver farm machinery agencies.

Stayton, Ore.—J. C. Mayo has bought the Urban Accessories Co. from T. A. Urban.

Santa Ana, Cal.—George O. Peavy, 119 Bush St., has taken the Orange county agency for Bethlehem trucks.—The Orange County Welding & Radiator Works has opened at 326 E. Third St.—Miller & Monkhouse, Orange county dealers for Transport trucks, are remodeling their house to add display and salesroom.—Smith Brothers have opened a Rayfield carburetor sales and service station, 414 W. Fifth St.

Anaheim, Cal.—E. C. Gilbert is distributor for the Elgin Six for the northern half of Orange county, located at 207 N. Los Angeles St.

Fullerton, Cal.—W. F. Oswald has opened a complete Exide battery service station, 126 W. Commonwealth Ave.

Riverside, Cal.—Bruns-Estes have taken the Riverside county agency for Velie cars and trucks at 375 W. Eighth St.—Barnes & Jepson have opened a radiator and top shop, 558 W. 8th St., specializing in Ford work.—George A. Roach has doubled the size of his store and repair garage on Eighth St.

Provo, Utah—Jack Affleck, of the Success Motor Co., has bought the Liberty Garage from Roy Jacques and C. Brown and will locate his business in the latter building.

Beaver, Utah—Henry Detmers has sold the Detmers Garage to Harry Larson who will continue the business as the Larson Auto Co.

Randolph, Utah—Kennedy Brothers have bought ground here on Main St. whereon to erect a modern cement garage, up to date in every detail.

Tekoa, Utah—Lewis M. Gum has bought the Tekoa Garage from S. C. Snider and Fred Mayer; he has put in active charge of the Dodge agency Carl Sprouse, formerly with the Mitchell, Lewis & Staver Co., of Spokane, Wash.

Winnemucca, Nev.—Ross Sellars has sold his garage business and the Oldsmobile and Chevrolet agencies to M. Cazajous.

Paris, Ida.—William Jensen and Earl Innes have bought the Paris Garage & Novelty Co. from L. W. Bach and will continue the Ford and Oldsmobile agencies.

Arco, Ida.—The Hansen Garage Co., of Mackay, has taken over the Balding Garage; C. H. Nix will manage the sales of several standard makes of cars.

Lewistown, Mont.—R. O. Sigman has sold his interest in the Hamachek & Sigman Garage to Emmett Passlea.

Prescott, Ariz.—William Byers has opened the Byers Garage on West Gurley St.

Los Angeles, Cal.—Robert B. Frue, Southern California and Arizona distributor for Crow-Elkhart cars, has opened fine and up-to-date sales and display rooms at 200-210 W. Pico St.—Hogg & Gottschalk have opened the Tunnel Garage and Goodyear Service Station, 707 W. Third St., four minutes' distance from Broadway, to handle used cars; J. W. Hogg formerly conducted the Hogg Garage & Repair Shop, 524-26 S. Los Angeles St.—Frank Price, veteran tire dealer, has been made chairman of the executive committee of the Los Angeles Tire Jobbers & Manufacturers' Assn.—Diamond Auto Works, automobile top and custom body factory, is now under new management, T. H. Birchall and B. B. Emery now operating the business.—The J. B. Wood Tire & Rubber Co., Hewitt tire distributor, is having a new sales building erected for it at Third St. and Central Ave.—V. C. Worden has been named chief engineer for the Master Carburetor Co.—Sewall Brown has been placed in charge of sales for Wm. C. Warmington, Westcott car dealer.—The Los Angeles Horseshoe Tire Co., Charles Daley, manager, has moved to a new location at 1037 S. Figueroa St.

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"NO-LEAK-O"

WHY MOTORS LEAK

The cylinder walls of all gasoline motors warp from expansion and contraction and also wear. As the piston ring cannot conform to the warped places, the explosion and other forces destroy the seal of oil as it passes over these places; the gas escapes and oil passes up.

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"NO-LEAK-O" OIL SEALING Piston Rings have a 45-degree angle groove full of oil, which pulsates as the piston moves up and down and KEEPS a film of oil between the ring and the cylinder wall REGARDLESS of warped or worn places on the cylinder wall. The motor maintains maximum power.

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If your jobber cannot supply you order direct.

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Beware Attempted Imitations, "No-Leak-O" Patented. Rings carried in stock by Lewis Bros., Montreal.

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MOTOR TRUCKS
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The Windshield that stays put at any angle. Are you selling it? Not cheap, but mighty profitable. Send for descriptive booklet.

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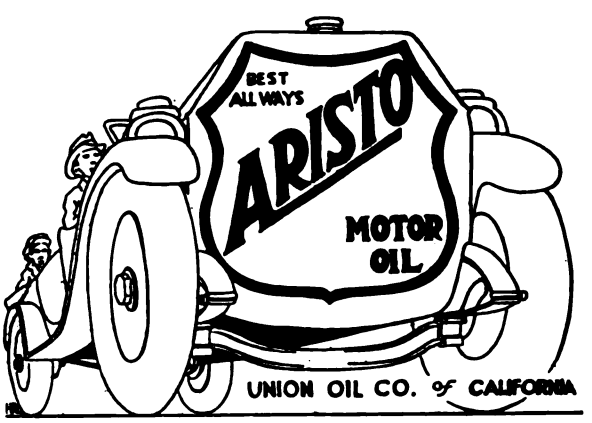

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Hundreds of them, all sizes and for every purpose. If your old motor is worn out, or beyond ordinary repair, we will furnish you with one to replace it, no matter what make, and give you liberal allowance on old motor. We have hundreds of them. Also hundreds of crank cases, cylinders, crankshafts, clutches, pistons and connecting rods, wheels, frames, steering assemblies, gears, rear end axles, radiators; in fact, everything and anything needed for an auto.

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2- and 4-Wheeled Trailers
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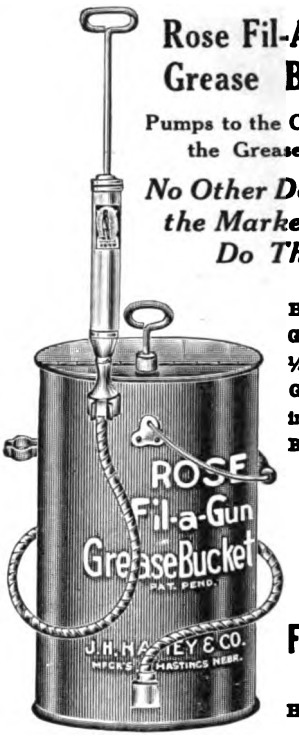
Rose Fil-A-Gun Grease Bucket

Pumps to the Car or fills the Grease Gun

No Other Device on the Market Will Do This



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MAKES DRIVING UNDER ALL CLIMATIC CONDITIONS A

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THE steadily increasing demand for Oldsmobiles is proof of Oldsmobile quality. Twenty-one years motor car building experience are behind the Oldsmobile of today.

Power and economy feature its performance.

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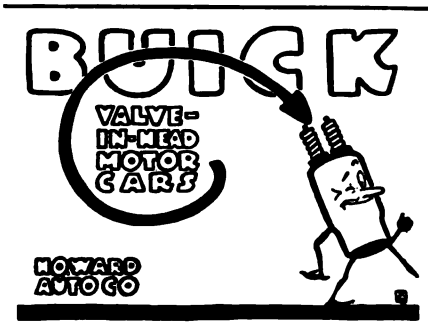

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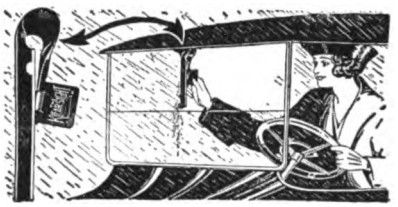

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KLEAR-SIGHT WINDSHIELD CLEANER

gives you a clean dry glass. Rain, Mist or Snow goes off in a jiffy if your car is equipped with KLEAR-SIGHT. A KLEAR-SIGHT ahead prevents accidents and makes it easier to drive. Can be slipped on or off any windshield instantly. Works simply and efficiently.

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Instantly seals punctures.
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Designed and Built for the Motorist who Puts Merit Beyond Price, Beauty Beyond Mere Cost.

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The Respect of the Crowd goes with a HOT SPOT CHALMERS

Quality First

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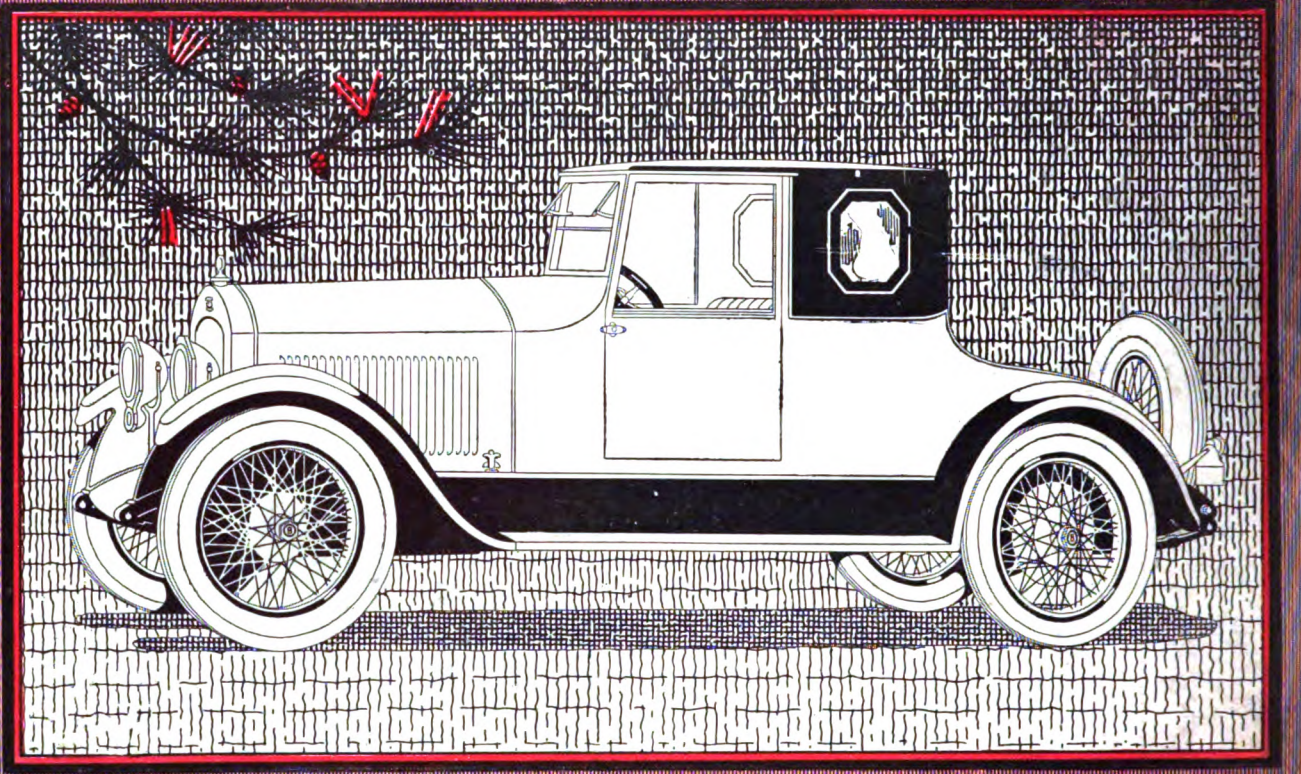

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Unusual in its charm, powerful in action, carrying an air of distinguished dignity, the *Cole Aero*-EIGHT has won an international reputation. Daily, more insistent calls for *Aero*-EIGHTS come from all parts of the world. And, in America its popularity is ever on the increase. This tremendous wave of approval assures the success of Cole dealers the world over.

All prices are guaranteed against reduction during 1919

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Motor West

THE MOTORING AUTHORITY OF THE PACIFIC COAST

VOL. XXXII, No. 2 NOVEMBER 1, 1919 $2.00 A YEAR, 15c A COPY

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Champion

Dependable Priming Plugs

Get Ready Now For Big Cold Weather Demand

COLD weather ushers in a demand for Champion Dependable Priming Plugs, for which dealers should prepare now.

Champion Dependable Priming Plugs, with the priming cup right in the plug, deliver the gasoline directly to the sparking point, where the spark cannot fail to ignite it. They make cold weather starting quick and sure.

They are a necessity for cars not equipped with priming cups and a decided advantage for cars with ordinary priming cups, which deliver the gasoline too far from the spark plug. Order your stock *now*.

Price $1.50 each.

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Champion Spark Plug Co., of Canada, Limited
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THE MOTORING AUTHORITY OF THE PACIFIC COAST

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Denby trucks have found a very wide use in Central and Eastern Oregon, because of their dependability and the ease with which they negotiate bad roads.

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There are big opportunities in merchandising Denby trucks; maybe there's some open territory in your section. A letter to the factory or the Western Office will post you.

The popularity of Denby trucks in the lumber industry in the North West, is the result of their ability to handle, easily and profitably, work that is impossible for most trucks.

This super-ability, characteristic of all Denbys, is your assurance that a Denby will do any task you may demand of it; and that it will do all kinds of work with perfect dependability.

DENBY
MOTOR TRUCKS

Denby Motor Truck Company—Detroit
Western Office, 425 Rialto Building **San Francisco**
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UNITED STATES TIRES AND TUBES
OILS AND GREASES

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Pa.

Gentlemen:-

Some eight years ago we decided to establish and maintain a high reputation as tire and accessory dealers. To accomplish this success meant affiliation with a reputable tire manufacturer who would furnish us with the 'quality and quantity' needed in maintaining a profitable trade.

With this idea in view we invested in United States Tires and take this opportunity to tell you we are more than satisfied with results.

If the future may be judged by the past there is a big sales year ahead for Tierney Brothers, Inc.

Very truly yours,
TIERNEY BROTHERS, Inc.
J. A. Tierney
President

Pittsburg

—the world's largest steel **City**—is indeed discriminative.

Testimonial letters reaching our files prove that **UNITED STATES TIRES** are a wholesome business asset.

Here is an appreciative market for *good* tires.

United States Tires are Good Tires

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Motor West

THE MOTORING AUTHORITY OF THE PACIFIC COAST

VOL. XXXII, No. 4 | DECEMBER 1, 1919 | $2.00 A YEAR, 15c A COPY

Champion

Dependable Priming Plugs

Order Now

Fires Cold Engine

Champion Dependable Priming Plugs are better than priming cups. The gas trickles down the core of the plug and directly over the points where and when the spark jumps. The explosion is instantaneous and sure.

For the hundreds of thousands of automobiles which have no priming cups Champion Dependable Priming Plugs are imperative.

The public demand is big—dealers should order now. *Price $1.50 each.*

Champion Spark Plug Company, Toledo, Ohio

Champion Spark Plug Company, of Canada, Ltd., Windsor, Ontario

ADVERTISERS' INDEX, PAGE 3.

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300,000 previous Maxwells made every dollar count in the Post-War Model.

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Motor West
THE MOTORING AUTHORITY OF THE PACIFIC COAST

DEALERS!

There are big opportunities in merchandising Denby trucks; maybe there's some open territory in your section. A letter to the factory or Western Office will post you.

In big city and small—for use on city streets or in interurban hauling — storage and moving companies prefer the Denby.

With bulky, top-heavy loads and big van bodies, whatever the road or grade, they go unfalteringly about their business, steadily earning dividends for their owners.

Backing this dependability is an economy of fuel and tires, and a low upkeep expense, that makes the total cost of transportation very low.

Denby Motor Truck Company—Detroit

Western Office, 425 Rialto Building **San Francisco**

(62)

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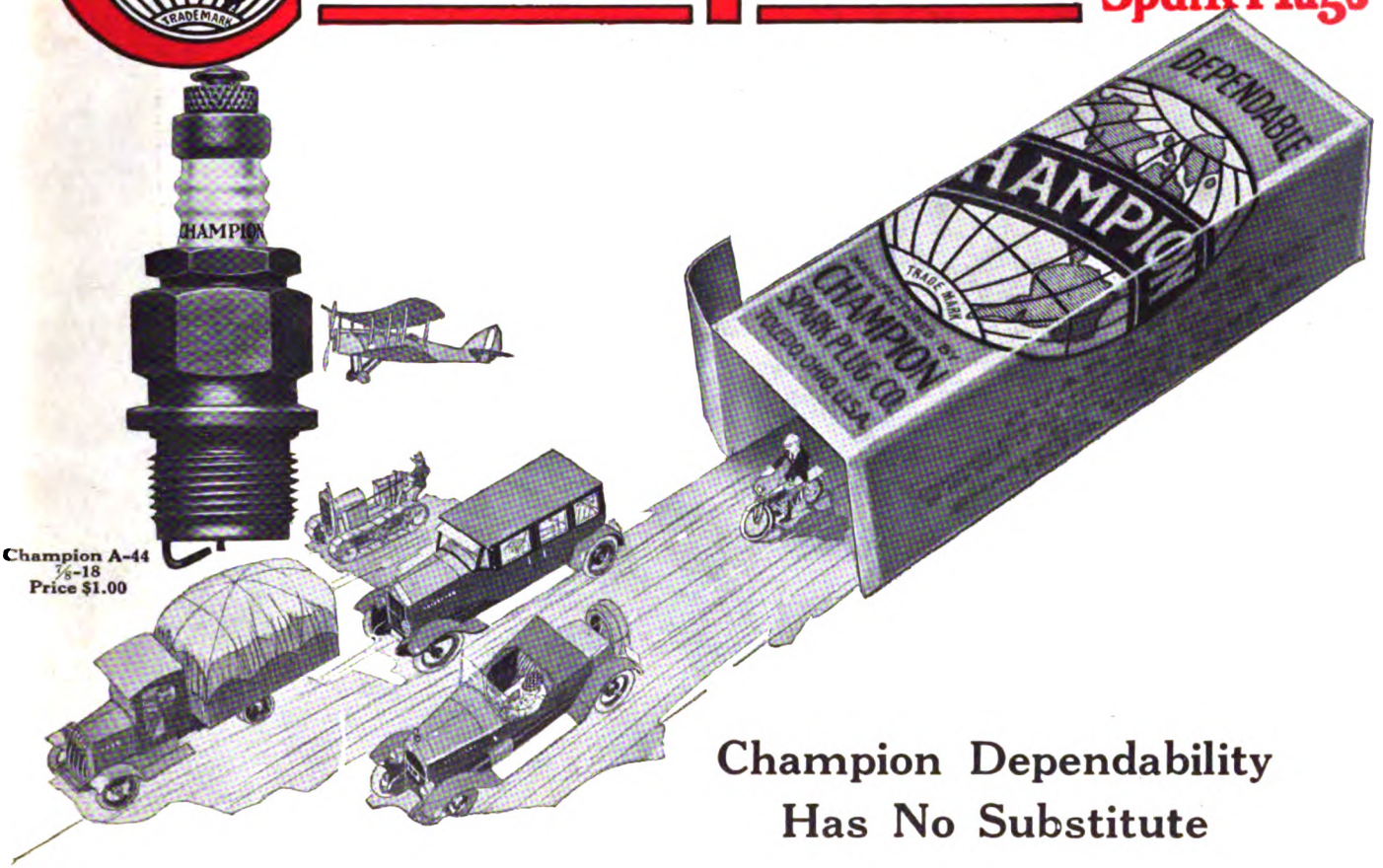
THE MOTORING AUTHORITY OF THE PACIFIC COAST

JANUARY 1, 1920 $2.00 A YEAR, 15c A COPY

Champion Dependable Spark Plugs



Champion A-44
⅞-18
Price $1.00

Champion Dependability Has No Substitute

MORE than half of all the manufacturers building all types of gasoline engines, equip their products at their factories with Champion Dependable Spark Plugs. This is the public's guide and protection in selecting spark plugs for their cars. Avoid substitutes—look for the name "Champion" on the Insulator.

Now is the time for dealers to make sure their stock of Champion Dependable Spark Plugs is complete. Go over *your* stock today.

Champion Spark Plug Company, Toledo, Ohio

Champion Spark Plug Company, of Canada, Ltd., Windsor, Ont.

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Light Weight and Durability are the best Guarantee of Maxwell Quality

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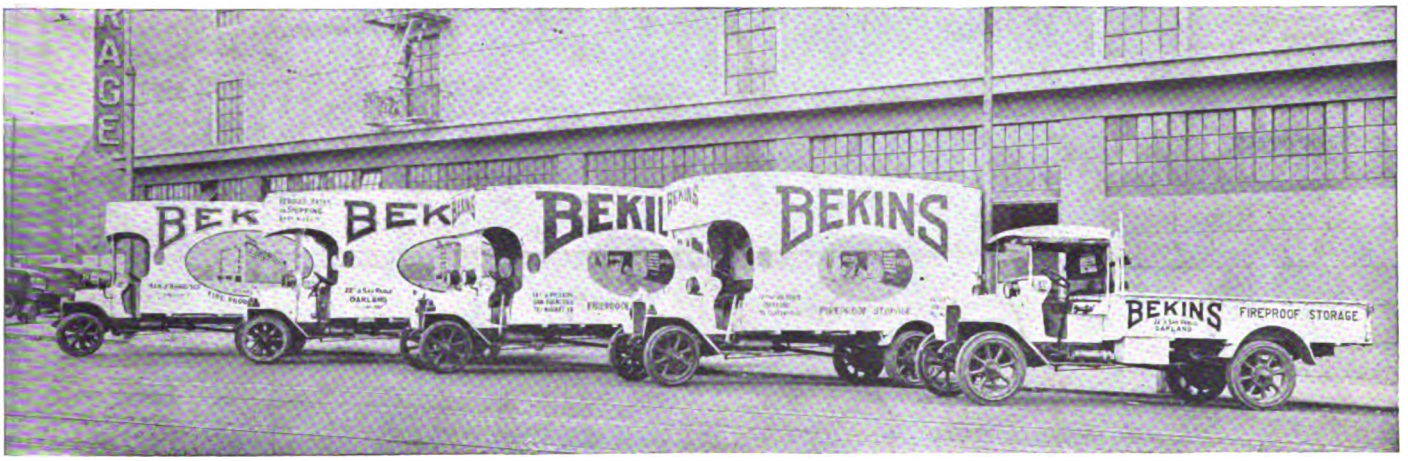

DENBY
MOTOR TRUCKS

DEALERS!

There are big opportunities in merchandising Denby trucks; maybe there's some open territory in your section. A letter to the factory or Western Office will post you.

In big city and small—for use on city streets or in interurban hauling—storage and moving companies prefer the Denby.

With bulky, top-heavy loads and big van bodies, whatever the road or grade, they go unfalteringly about their business, steadily earning dividends for their owners.

Backing this dependability is an economy of fuel and tires, and a low upkeep expense, that makes the total cost of transportation very low.

Denby Motor Truck Company—Detroit

Western Office, 425 Rialto Building **San Francisco**

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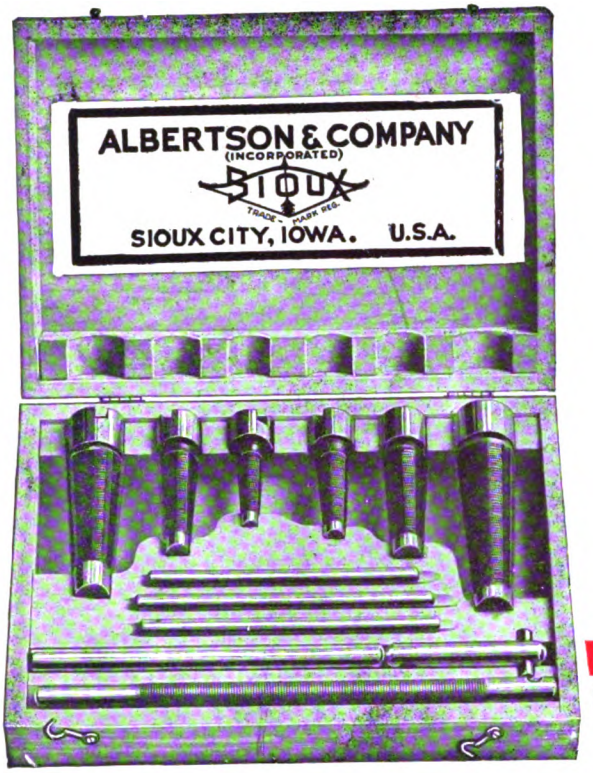

SIOUX
Trade Mark Reg. U. S. Pat. Office

Bushing Remover

PATENTED DEC. 10, 1918

A Boon to Repair Shops

A very simple tool that enables you to remove wornout bushings in jig time. Worth its weight in gold. Saves time, effort and labor. Increases your profit by simplifying the work.

The Sioux Bushing Remover

is the result of long and tedious experimenting. Its use makes bushing removing child's play compared to the old, difficult and tedious methods.

The standard set consists of: No. 1, for removing bushings from 3/8" to 7-16"; No. 2, for bushings from 1/2" to 9-16"; No. 3, for bushings 5/8" to 11-16"; No. 4, for bushings from 23-32" to 13-16"; No. 5, for bushings from 7/8" to 1 1-16", and one No. 20 blind or pocket bushing remover. The Ford set consists of Nos. 2, 3, 4 and 5.

Order a set today. They will earn their cost on a few jobs.

Sold By All Live Jobbers

Full directions for use of these tools with each set.

The tool that put the "move" in removing.

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THE MOTORING AUTHORITY OF THE PACIFIC COAST

VOL. XXXII, No. 8 FEBRUARY 1, 1920 $2.00 A YEAR, 15c A COPY

CHAMPION TRADE MARK

Champion Dependable Spark Plugs

Champion B43, Price $1.25
For High-Powered Cars,
Trucks and Tractors

For the Spring Car-Overhauling

CHAMPION Dependable Spark Plugs are recognized everywhere for their unfailing reliability and endurance. Dealers should have full stocks on hand.

Champion Spark Plug Company, Toledo, Ohio

Champion Spark Plug Company, of Canada, Ltd., Windsor, Ont.

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The Rise of Maxwell is Due to Its Metals

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FEB 27 1920

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THE MOTORING AUTHORITY OF TH[illegible]ACIFIC COAST

Public Library
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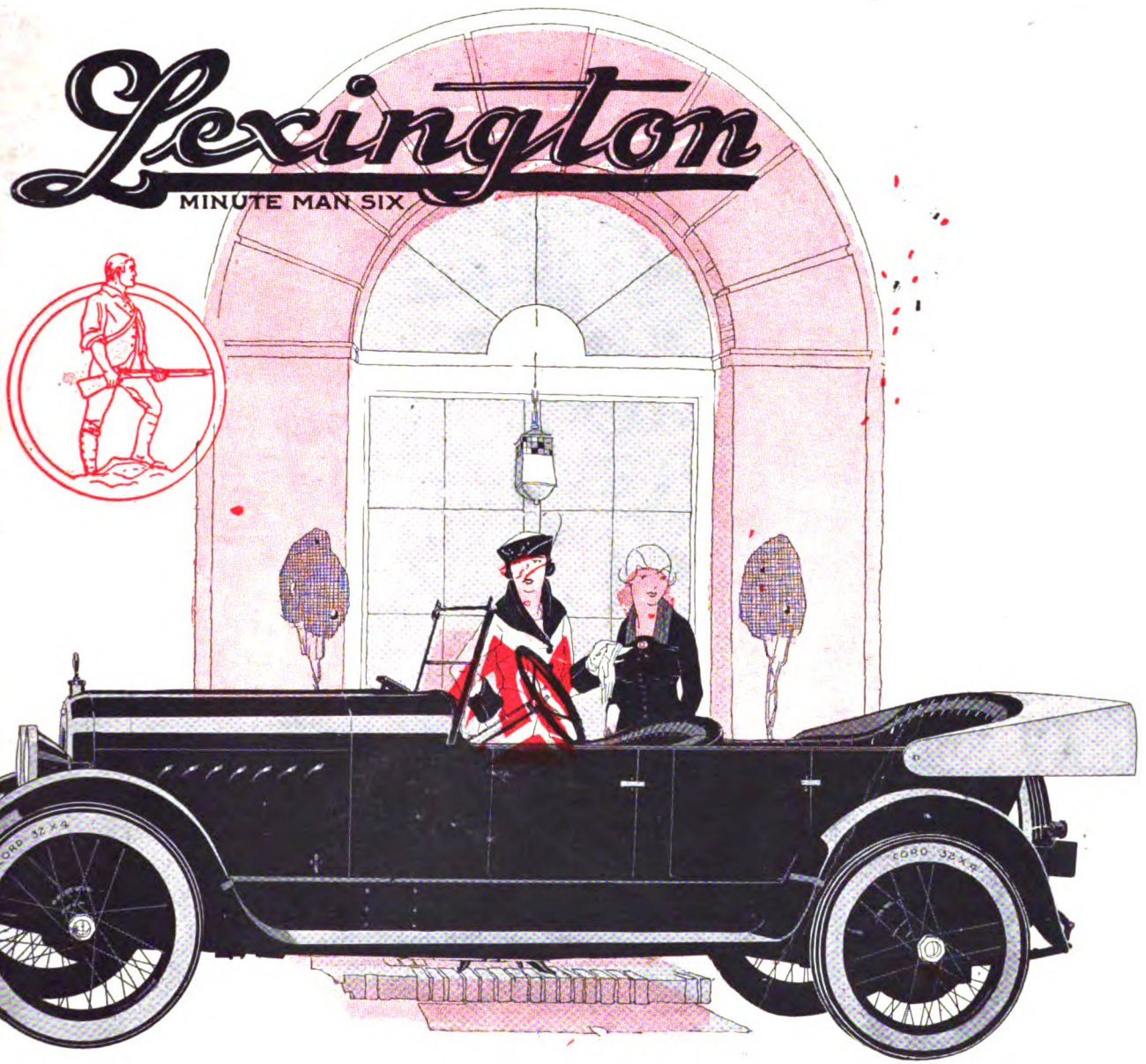
New York City

Lexington

MINUTE MAN SIX



FOR those who want the individuality of advanced design, Lexington introduces this highly specialized sport model, the Thorobred.

It suggests youth, vigor, gayety! But it is more than a new fashion; it is a finer running, easier driving, better riding car.

It gives more power on present-day low-grade fuel than was possible with the former high-test gas. Visit the Lexington dealer or write the factory.

Lexington Motor Company, Connersville, Indiana, U. S. A.

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IN the popular United States Tire Historical Bulletins, erected at memorable spots on America's Highways, may be seen another of the many services inaugurated by this organization to stimulate the sale of GOOD tires and further benefit its hosts of loyal dealers.

United States Tires are Good Tires

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THE MOTORING AUTHORITY OF THE PACIFIC COAST

VOL. XXXII, No. 10 MARCH 1, 1920 AR, 15c A COPY

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Champion Dependable Spark Plugs

Did This Ever Happen to You?

WHEN putting in spark plugs, has your wrench ever slipped, banged into another plug and cracked or broken the porcelain insulator?

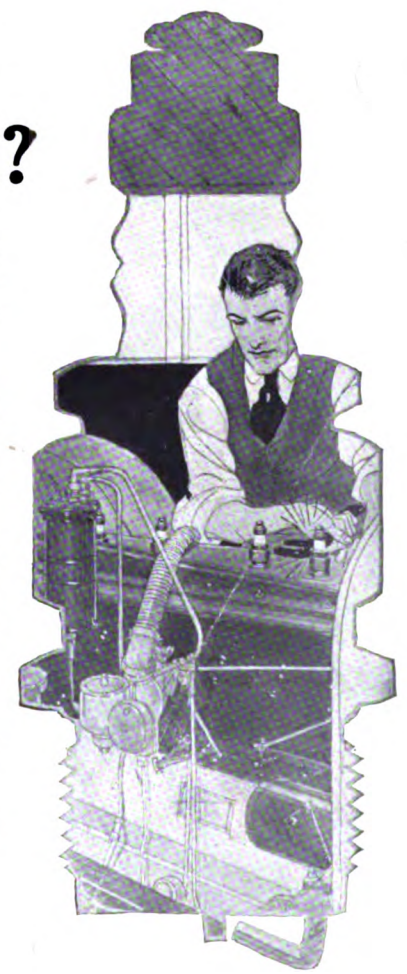
Champion Spark Plugs stand this rough treatment and do not crack or break; our famous No. 3450 Insulator has been developed and strengthened to such a degree.

Car owners who use Champion Spark Plugs are remarkably free from the ordinary spark plug accidents as well as from troubles due to excessive heat, shocks and temperature changes.

There is a Champion Spark Plug specially designed for every type of gasoline engine.

Dealers should make sure that their stocks are complete.

Be sure the name Champion is on the Insulator and the World Trade Mark on the Box.



Champion Spark Plug Company, Toledo, Ohio

Champion Spark Plug Company, of Canada, Limited, Windsor, Ontario

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A MAXWELL
is 98% metal—the finest metal that money can buy and that science can produce.

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THE MOTORING AUTHORITY OF THE PACIFIC COAST

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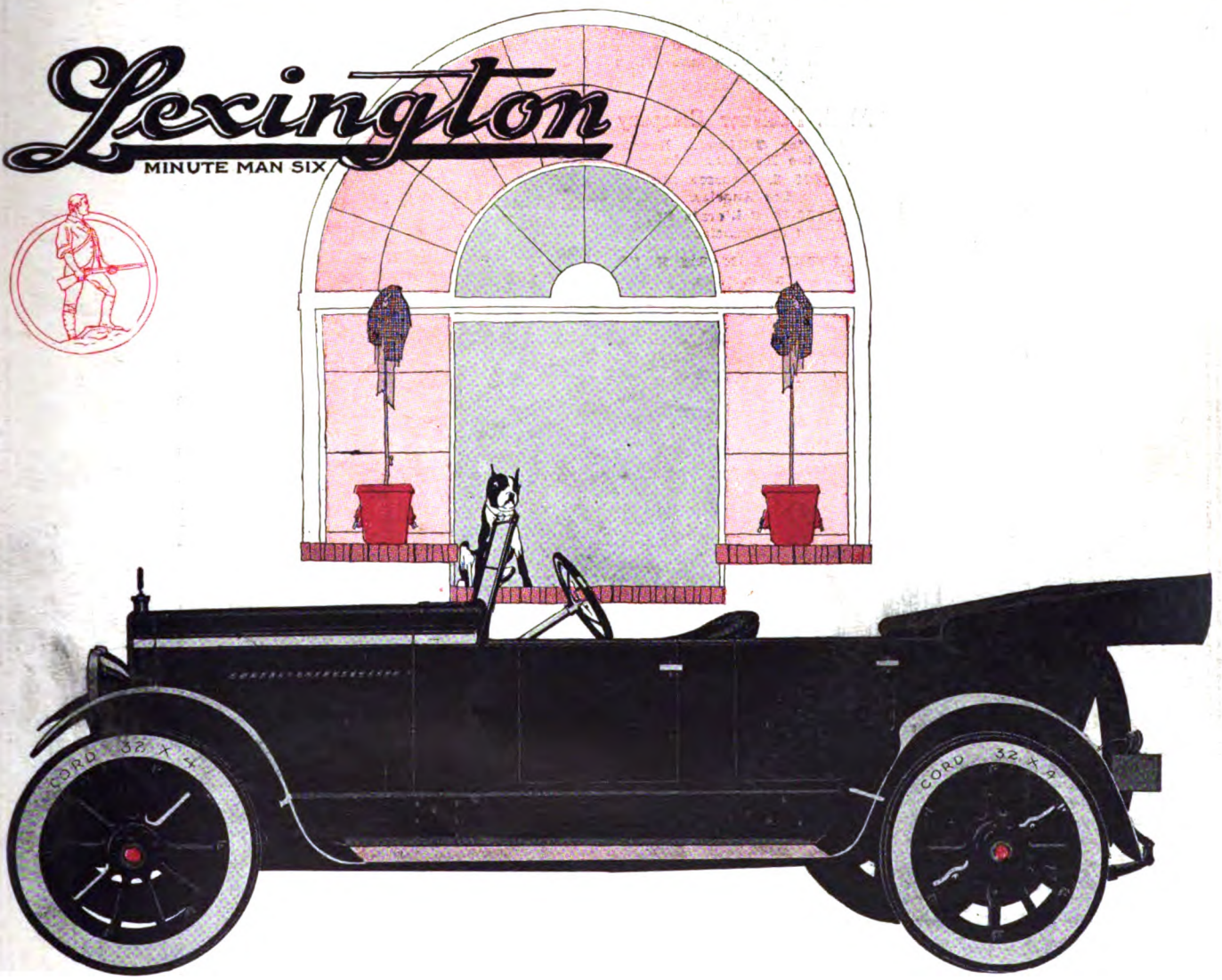
New York City

VOL. XXXII, No. 11 MARCH 15, 1920 $2.00 A YEAR, 15c A COPY

Lexington

MINUTE MAN SIX



The Touring Car—Beautiful and Serviceable

BY ITS performance under difficulties and its dependable service on trying roads and grades, the Lexington Touring Car wins the instant and lasting allegiance of owners.

Its many exclusive features and mechanical improvements give it lightness, flexibility, economy and rugged strength. Dealers are invited to write us regarding representation.

Lexington Motor Company, Connersville, Indiana, U. S. A.

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Marmon 34

A motor car built to a new degree of accuracy—so smooth in operation, so immune to trouble and wear as to be an entirely new experience for the motoring world. A motor car that truly reflects the great lessons learned in building aircraft engines for the government—**that** is the new series Marmon 34 with the High Efficiency Motor.

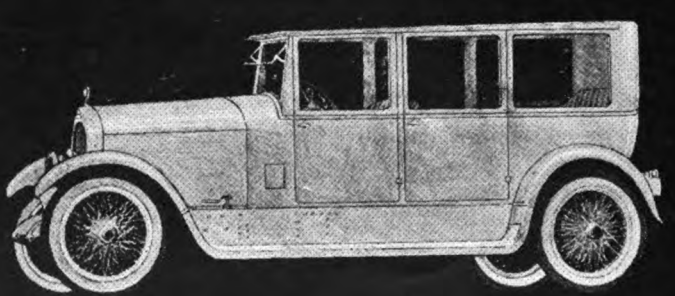
Al G. Faulkner Company

Distrs. for California, Nevada and the Hawaiian Islands.

1635 S. Figueroa St., Los Angeles.

1656-66 California St., San Francisco.

NORDYKE & MARMON CO. Indianapolis.



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THE MOTORING AUTHORITY OF THE PACIFIC COAST

VOL. XXXII, No. 12 APRIL 1, 1920 A YEAR, 15c A COPY

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CHAMPION TRADE MARK

Champion Dependable Spark Plugs

Factory Equipment on Ford Cars Since 1911

IT is quite unnecessary for Ford owners to risk experimenting with spark plugs.

A long time ago, in 1911, the Ford Motor Company chose Champion Spark Plugs as best adapted to the requirements of the Ford car.

The judgment of Ford engineers is summed up in the Ford Motor Company's instruction book as follows:

"There is nothing to be gained by experimenting with different makes of plugs. The make of plugs with which Ford engines are equipped when they leave the factory are best adapted to the requirements of the motor."

Dealers should make sure that their stocks are complete.

Be sure the name Champion is on the Insulator and the World Trade Mark on the Box

Champion Spark Plug Company, Toledo, Ohio

Champion Spark Plug Company, of Canada, Limited, Windsor, Ontario

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Fine steels form the sinew of a Maxwell —steels that are light in weight and have the rare quality of great strength as well.

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WIRE WHEELS

HOUK QUICK CHANGE

We are in a position to make immediate delivery on sets of Wire Wheels for

BUICK
CADILLAC
CHALMERS
CHANDLER
CHEVROLET
COLE
DODGE
DORT
ESSEX
FRANKLIN
HAYNES
HUDSON
HUPP
KISSEL
LEXINGTON
MARMON
MAXWELL
NASH
OLDSMOBILE
OVERLAND
PAIGE
SCRIPPS-BOOTH
STUDEBAKER
STUTZ
VELIE
WESTCOTT
WINTON

HOUSE QUICK CHANGE

Set of 5 House Wire Wheels, 4 inner hubs, 4 hub caps, hub cap wrench, spoke nipple wrench, one hub dust cover for spare wheel. White, Black, Red; color optional.

For Fords, **$70.**

For Chevrolet 490 and Overland Model 4, **$80.**

By equipping your car with Wire Wheels you give to it a touch of refinement that cannot be accomplished in any other way.

And for the reason that all racing cars are Wire Wheel equipped, it is obvious that they offer something more than mere appearance.

Racing drivers are cautious individuals not prone to accept faddish innovations. It is only a coincidence that Wire Wheels do add to the appearance of a car.

Racing drivers endorse and use Wire Wheels for the reason that they can unhesitatingly trust their lives to them—and their chances for winning are enhanced.

Strength and resiliency—combined with light weight and appearance. Those are the things that Wire Wheels offer you.

Our branches carry in stock Wire Wheels for your car.

WIRE WHEEL CORPORATION OF AMERICA

(Successor to Houk Manufacturing Co.)

1700 Elmwood Avenue Buffalo, N. Y.

Direct Factory Branches and Service Stations:

NEW YORK
835 11th Avenue, at 57th Street

DETROIT
11 Leland Street

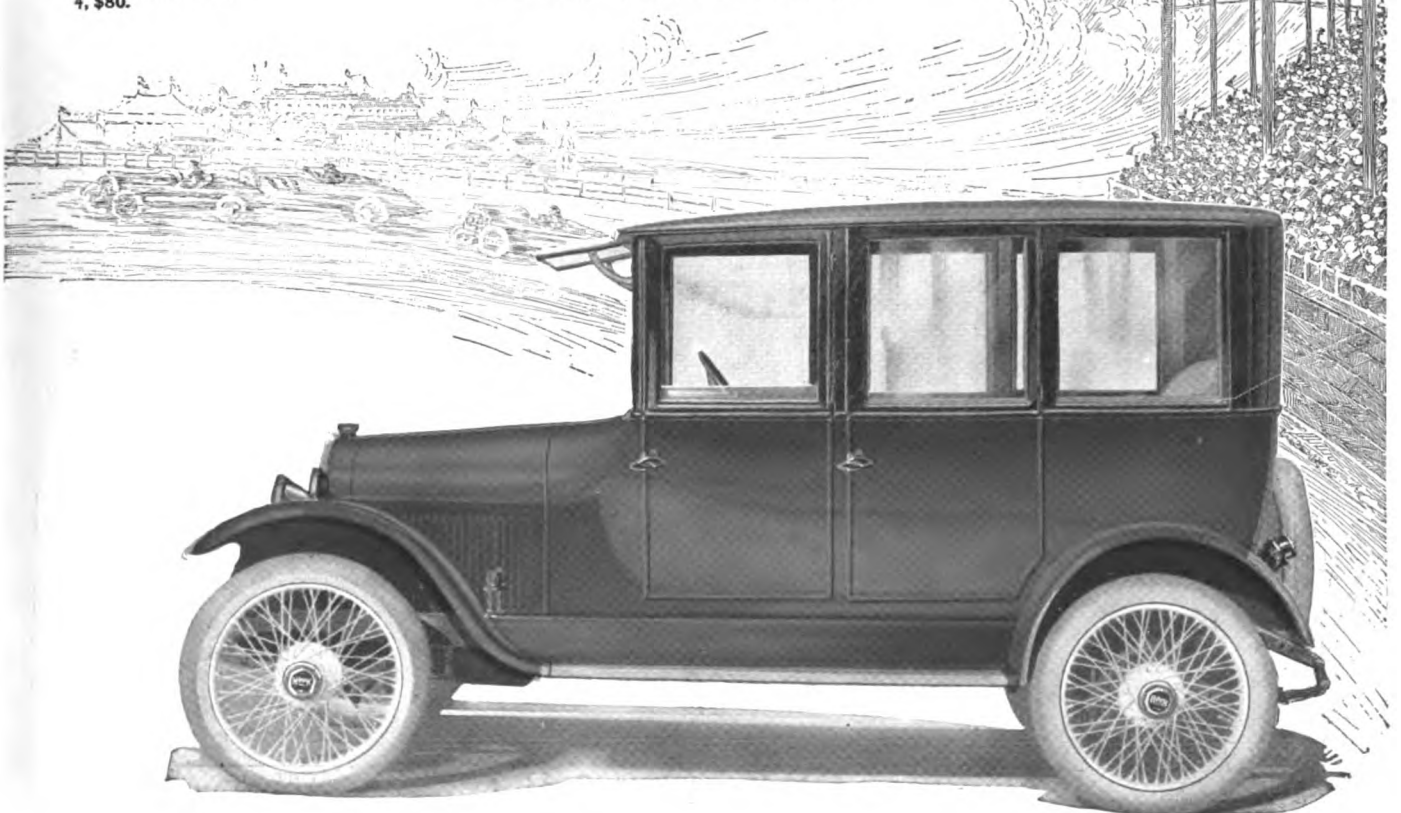
PHILADELPHIA
328 North Broad Street

LOS ANGELES
1216 South Grand Avenue

CHICAGO
23rd Street and Indiana Avenue

SAN FRANCISCO
1690 Pine Street

Exclusive Canadian Representative:
Dunlop Tire & Rubber Goods Co., Toronto



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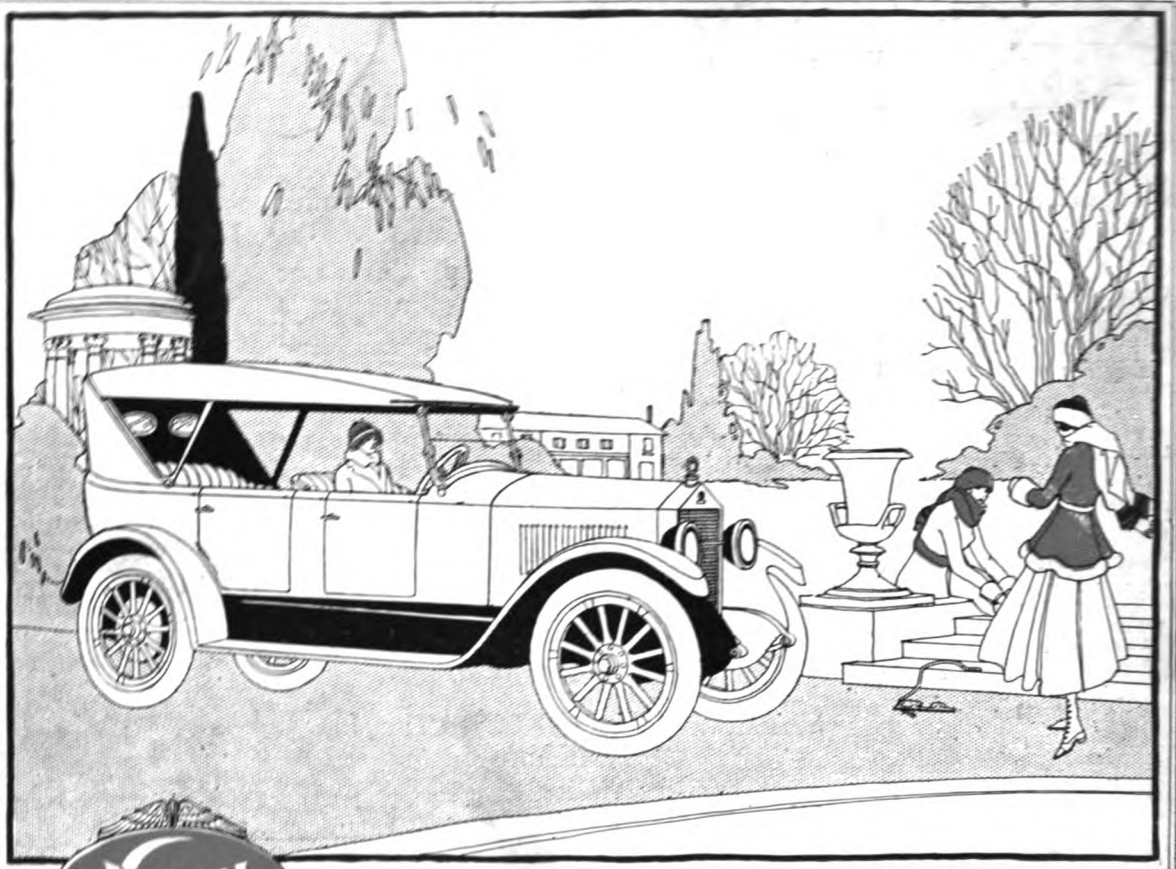

MOON touring car models—the five passenger Six-48 and the seven passenger Six-68—embody the dexterous performance and the artistic finish for riding in harmony with buoyant hopes for the coming months. The feel that 1920 is to be a wonderful year is made tangible in the design, the Red Seal Moon-Continental Motor power and the durable parts of the car whose price is an appeal to your reason.

Southern California Motor Co., 955-59 W. 7th St. ..... Los Angeles, Cal.
Northern California Motor Car Co., 999 Geary St. ..... San Francisco, Cal.
The C. H. S. Company, 65 North 23rd St. ..... Portland, Ore.
Inter-State Motor Co., 1313 First Ave. ..... Spokane, Wash.
Bardshar Motor Co., 1621 Twelfth Ave. ..... Seattle, Wash.
Beckwith Motor Co., 25 East Alder St. ..... Walla Walla, Wash.
M. L. Graham Co., 325 S. West Temple St. ..... Salt Lake City, Utah
Southern Motor Co. ..... Phoenix, Ariz.

P. W. WISDOM, *Western Sales Manager*
Washington Building, Los Angeles, Cal.

Built by MOON MOTOR CAR CO., St. Louis, U. S. A.

MOON

MODERN MOTOR CARS

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